Dear Friends,

California State University, Northridge’s College of Engineering and Computer Science has proven to be a great asset to industry by providing graduates who are job-ready from day one with a notable work ethic and ready to tackle the challenges of today and tomorrow. Our outstanding faculty and staff are committed to furthering the hands-on curricula in a student-centered environment. CSUN graduates also address industry’s need to diversify the workforce—something for which I take great pride in. As Dean of this outstanding college, I am excited to focus our attention on continuing to meet industry needs, enhancing innovation and research, and elevating the College of Engineering and Computer Science as a true resource for industry and graduate schools. As described by Dr. Erika Beck, President of CSUN:

“The imperative of our work has never been clearer. We are the solution to what ails us and we have the opportunity to continue to stand for our values of equity and inclusion, to advance access and academic excellence and to watch our students walk across a commencement stage to a life that is forever transformed on the other side.”

As the College of Engineering and Computer Science moves forward, this strategic plan will serve as a guide for us all. In addition to enhancing our curricula and student experiences, over the next five years, we aim to be forward-looking at student success strategies that include measures for supporting the increasing number of underserved students and closing equity gaps in the college. Addressing the systemic barriers to student success will require an all-college commitment. This particular effort will require a focus that includes trainings for faculty and staff on serving a diverse population and hosting speakers who can inform the college about issues related to equity in education.

We are ambitious with our plan, but I am confident that together we will move the College of Engineering and Computer Science forward. Opportunity is before us and we are committed to see our goals come to fruition. We are up for this challenge and invite you to join us on this journey. At the end of the day, together we will become a national leader and a role model in engineering and computer science education.

Let’s go Matadors!

Houssam Toutanji, Ph.D.
Dean
The College of Engineering and Computer Science is where innovators gather and leaders are cultivated. Powered by unparalleled diversity and accessibility, we solve society’s complex technical problems by educating tomorrow’s pioneers in academia, industry, and government.

Through advanced, interdisciplinary, and experiential education, and applied research, we nurture innovation, leadership, collaboration, adaptability, and lifelong learning in order to serve and impact our regionally and globally connected communities.

Seeking to achieve the highest level of student, faculty, and staff success, we celebrate innovative work with a hands-on and systems-based approach and a resilient and entrepreneurial environment. We build upon a foundation of diversity, equity, and inclusion and collaboration with a forward-looking holistic perspective.
The College of Engineering and Computer Science (CECS) Five-Year Plan outlines the PRIORITIES, OBJECTIVES, and STRATEGIES that will be undertaken and accomplished in the next five years (2022 - 2027).

The plan is grouped into the following three categories:

1. UNDERGRADUATE AND GRADUATE EDUCATION
2. RESEARCH
3. COMMUNITY ENGAGEMENT AND PROFESSIONAL DEVELOPMENT
UNDERGRADUATE AND GRADUATE EDUCATION

Improve graduation rates and reduce academic equity gaps by emphasizing proactive, intentional, and holistic advisement; facilitating coursework through inclusive learning options; and enhancing visibility of, and opportunities for, scholarship, entrepreneurship, and internships.

UNDERGRADUATE
Priorities, Objectives, and Strategies

1. Increase 4-year graduation rate for first time freshmen to 12% and 6-year graduation rate for first time freshmen to 50%.
2. Increase 2-year transfer student graduation rate to 20% and 4-year transfer student graduation rate to 70%.
3. Increase Underrepresented Minoritized (URM) and female faculty by one-third (1/3) [base year 2021-2022].

PRIORITY 1  Foster an environment of academic success that enhances timely degree completion for a diverse student population

OBJECTIVES

1. Increase 4-year graduation rate for first time freshmen to 12% and 6-year graduation rate for first time freshmen to 50%.
2. Increase 2-year transfer student graduation rate to 20% and 4-year transfer student graduation rate to 70%.
3. Increase Underrepresented Minoritized (URM) and female faculty by one-third (1/3) [base year 2021-2022].

PROPOSED STRATEGIES

1. Increase graduation rates by enhancing advising, tutoring, and mentorship.
2. Facilitate incoming first-time freshman students’ participation in the Early Start Mathematics (ESM) and Early STEM programs with particular emphasis on underserved communities.
3. Mandate all transfer students to receive CECS advising (prior to their second semester before enrolling in classes) and to meet their advisor at least once a year.
4. Provide resources to encourage all faculty to participate in college specific professional development related to quality of instruction.
5. Recognize faculty for their teaching skills and performance.
6. Work with stakeholders to develop programming for the Global Hispanic Serving Institution (HSI) Equity Innovation Hub specifically aimed at reducing the academic equity gaps in the College.

7. Create a college-wide position to enhance career and major advisement.

8. Increase faculty diversity by:
   • proactively targeting candidates from Historically Black Colleges and Universities (HBCUs) and Hispanic Serving Institutions (HSI) doctoral granting institutions.
   • advertise to demographic-specific organizations, e.g. SWE, SHPE, NSBE, etc., work closely with the College’s Faculty Equity and Compliance Representative to ensure compliance with Equal Employment Opportunity regulations in the hiring process, and retain faculty for their success in CECS.

9. Increase awareness and understanding of diversity, equity, and inclusion (DEI) by all faculty members, and strive for continuous improvement as demonstrated in their commitment to using culturally responsive pedagogies to teach and mentor students from underrepresented minoritized populations.

PRIORITY 2  Develop opportunities to support undergraduate students in professional activities

OBJECTIVE

Increase number of internships, projects, and students in competitive entrepreneurial activities.

PROPOSED STRATEGIES

1. Promote professional activities by engaging freshman and sophomore students in student club organizations and societies, and by establishing more partnerships with industry, professional organizations, and communities.

2. Promote and expand the Honors Co-Op program to fifteen companies to coordinate internship opportunities.

3. Provide resources to support student presentations at professional conferences.

4. Promote and provide resources to student clubs and competition teams for their professional development activities.

5. Encourage and engage students to participate in service-learning opportunities through the Office of Community Engagement and provide technological solutions that address problems in local communities.
PRIORITY 1  
Recruit, retain, and prepare students for future entry into industry and/or Ph.D. programs

OBJECTIVES

1. Increase graduate student enrollment by 25% [compared with the rate of the base year 2021-2022].
2. Increase 2-year graduation rate to 60%.

PROPOSED STRATEGIES

1. Work with the Graduate Studies Office to offer workshops to encourage current senior undergraduate students and alumni to consider pursuing a graduate degree at the College of Engineering and Computer Science.
2. Attract more international graduate students by increasing the College’s visibility (through increased innovative marketing and outreach activities, governmental partnerships, and outreach to universities CSUN has already had the partnership agreements with).
3. Provide resources to encourage all faculty to participate in college specific professional development related to quality of instruction.
4. Recognize faculty for their teaching skills and performance.
Priorities, Objectives, and Strategies

PRIORITY 1  Increase graduate and undergraduate student research involvement

OBJECTIVES
1. Increase the number of students actively involved in research.
2. Increase the number of students who author or co-author publications.

PROPOSED STRATEGIES
1. Use at least 15% of start-up funds to support graduate students to do research.
2. Provide resources to students working on projects that will result in publication.
3. Publicize thesis defense and project presentations in the College and encourage graduate students to participate as audience members.
4. Establish collaboration with Ph.D. granting institutions to encourage students to do research and pursue their Ph.D. degrees.
**PRIORITY 2**  Increase research productivity [base year 2021-2022]

**OBJECTIVES**

1. Increase the number of submitted external grant proposals by 25%.
2. Increase the number of faculty submitting grant proposals by 25%.
3. Increase the number of peer reviewed conference and journal publications by 25%.
4. Increase research expenditure to $2.0 million per year.

**PROPOSED STRATEGIES**

1. Secure and allocate funds to upgrade current research labs.
2. Develop and update the College’s research web pages to include a list of research equipment, expertise areas, capabilities, publications, and active research centers and labs.
3. Provide reassigned time for faculty scholarship activities and grant writing.
4. Recognize faculty for research achievement.
5. Host grant writing workshops in CECS.

**PRIORITY 3**  Promote collaborations within CSUN and partnerships with other universities, industry, and government agencies

**OBJECTIVES**

1. Establish distinguished guest-speaker series.
2. Increase the number of industry sponsored projects.

**PROPOSED STRATEGIES**

1. Pursue industry sponsors to support the distinguished guest-speaker series and invite guest-speakers whose backgrounds reflect CSUN diverse student body.
2. Enhance partnerships with the College’s Industry Advisory Board (IAB) and department’s Industry Liaison Council (ILC).
3. Create College and department websites dedicated to research and update them regularly.
COMMUNITY ENGAGEMENT AND PROFESSIONAL DEVELOPMENT

Elevate the College’s visibility and increase resources (financial and in-kind) to place its graduates in the best possible positions in industry, government, and academia.

Priorities, Objectives, and Strategies

PRIORITY 1  Deepen Corporate/Industry Engagement

OBJECTIVES
1. Boost industry partnership with CECS to increase activities around recruitment, research, and funding.
2. Establish new endowed chairs, faculty fellowships, and scholarships.

PROPOSED STRATEGIES
1. Increase the College’s visibility by offering service and facilities to industry.
2. Enhance community collaborations and build robust and sustainable partnerships with industry.
3. Create a sustainable revenue stream and opportunities through engagement with design clinics, Honors Co-Op, Industry Advisory Board (IAB), Industry Liaison Councils (ILCs), Senior Design Project Showcase (SDPS), and the Ernie Schaeffer Center.
4. Encourage and engage students to participate in service-learning opportunities through the Office of Community Engagement and provide technological solutions that address problems in local communities.
PRIORITY 2  Establish the Global Hispanic Serving Institution (HSI) Equity Innovation Hub (EIH)

OBJECTIVE

Secure funds to equip the engineering research labs within the Global HSI - EIH.

PROPOSED STRATEGIES

1. Engage industry and alumni in planning and envisioning the Global HSI-EIH by holding small group meetings, in-person or virtual, with industry partners, community investors, and alumni prospects.
2. Identify ways faculty can utilize the Global HSI-EIH for research and student activities, particularly with focus on students from the underserved communities.
3. Make the Global HSI-EIH available to industry and community partners.
4. Work with stakeholders to develop programing for the Global Hispanic Serving Institution Equity Innovation Hub (HSI-EIH) to reduce academic equity gaps that currently impact students from the underserved communities.

CSUN Aeronautics team succeeds at 2022 competition. Read more by clicking here.