

**CALIFORNIA STATE UNIVERSITY, FULLERTON**  
**COLLEGE OF ENGINEERING AND COMPUTER SCIENCE**

**STRATEGIC PLAN 2018 - 2023**

**(Approved by ECS Chairs Council on Thursday, May 10, 2018)**

The College of Engineering and Computer Science (ECS) is preparing the workforce for a broad range of highly skilled technical and management careers. Through a mix of foundational instruction and applied hands-on experience, our accomplished faculty educate an eager and diverse student population. However, business leaders are struggling with the current “disruption” in the economy as technology advances are causing us to re-think traditional hiring and ways of doing business.

- What will be needed from an institution of higher education in this New Economy?
- How do we shrink or eliminate the workforce gap in engineering and computer science?
- How do we ensure a diverse group of thought leaders and researchers are producing the body of knowledge needed to understand the industry shifts in engineering and computer science and the affected industries?

As we enter into a “New Economy” it is important for the College of ECS to set a clear and measureable path forward to ensure student success, recruit and retain outstanding faculty and build a bridge with industry to fuel our global workforce needs.

**Mission:** The mission of ECS is simple. We want to educate engineers and computer scientists who will graduate with state-of-the art knowledge in their chosen field and are ready to embark on careers in industry and government, or proceed to acquire advanced degrees in their own or related fields.

**GOAL 1**

Foster student success through improvement of graduation rate and time to degree, in conjunction with narrowing the opportunity gap for ECS students.

*Objectives:*

(Please note that 2016-17 will serve as the base year for the calculation in rate increases below.)

- Annual increase of 19% in 4-year graduation rate of first-time freshmen in order to achieve the ECS GI 2025 target.
- Annual increase of 4.5% in 6-year graduation rate of first-time freshmen in order to achieve the ECS GI 2025 target.
- Annual increase of 12.5% in 2-year graduation rate of transfer students in order to achieve the ECS GI 2025 target.
- Annual increase of 4.5% in 4-year graduation rate of transfer students in order to achieve the ECS GI 2025 target.

- 40% increase by 2023 in the number of women pursuing ECS undergraduate degrees.

*Strategies:*

- Expand High Impact Practices such as faculty/student research, capstone projects, etc.
- Expand internship opportunities.
- Implement a robust assessment program to demonstrate student learning and document student achievement.
- Enhance advising, peer mentoring and community building activities.
- Improve student engagement and learning (and therefore student success) in pivotal math, science and introductory ECS courses.
- Improve student engagement and leadership opportunities.
- Expand high impact and community pipeline programs to encourage and support underrepresented students, including women, pursuing degrees in engineering and computer science.

**GOAL 2**

Recruit and retain high quality and diverse faculty and staff.

*Objectives:*

- Assess and fulfill faculty hiring needs in each department/program.
- Obtain comparative analysis of the ECS College staffing levels to all other CSUF academic Colleges.
- Foster, nurture and enhance existing strengths in the departments/programs and develop new areas of expertise.
- Provide support for faculty research and scholarly activities.
- Provide release time to faculty for development and submission of research-related external grant proposals.
- Provide laboratory space and equipment needed to support faculty and student research.
- Provide support for staff professional development.

*Strategies:*

- Advertise available faculty positions broadly to reach a diverse pool of outstanding prospective faculty.
- Provide competitive start up packages and adequate support for tenure-track faculty to ensure effective progress towards tenure and promotion.
- Provide clear and consistent information regarding the standards to be used for faculty retention, tenure and promotion.
- Allocate adequate travel funds to faculty to present research papers at professional conferences.
- Seek assistance from HRDI to conduct a detailed comparative analysis of the ECS College staffing levels.
- Implement a comprehensive staff hiring plan with an established baseline to achieve the desired ECS staff positions.
- Allocate adequate funds to support staff professional development.

### **GOAL 3**

Develop and sustain high quality academic programs. Cultivate and nurture mutually beneficial relationships with community, industry and alumni.

#### *Objectives:*

- Establish new Centers of Excellence to strengthen industry and community partnerships.
- Increase philanthropic, corporate and public funding.
- Provide faculty incentives to secure externally-funded research, scholarship and sponsored projects.
- Ensure adequate classroom, lab and faculty/student research space along with laboratory/specialized equipment to meet ECS curricular needs.
- Strengthen alumni and industry relationships.

#### *Strategies:*

- a. Develop new academic programs.
- b. Establish new Centers of Excellence and build out the full potential of the existing Centers through private and public support.
- c. Restructure ECS Affiliates program and establish clear goals and metrics for external funding at the college/department/program level.
- d. Hire a college-based Research Grants Specialist to facilitate proposal development and grant-related activities.
- e. Implement support mechanisms and incentive programs for faculty, which will allow the college to achieve the goal that at least 25% of the faculty will be funded externally by 25% or more.
- f. Pursue transformational gift opportunities, including the naming of the college and/or its departments, programs, buildings and laboratories.
- g. Survey ECS alumni and their employers routinely to determine if our graduates possess the required/desired knowledge, skills and characteristics.