



College of Engineering, Computer Science, and Technology
California State University, Los Angeles

2015–2020 STRATEGIC PLAN



Commit to **EXCELLENCE.**
Engage in **COMMUNITY.**





College of Engineering, Computer Science, and Technology California State University, Los Angeles

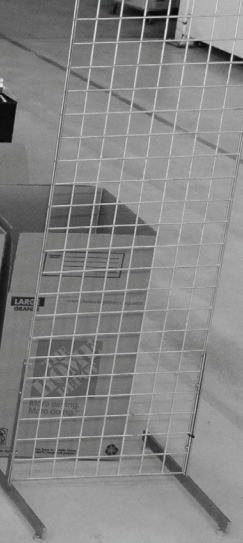
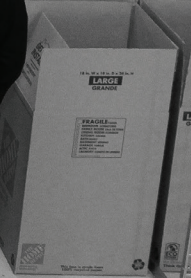


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Cal State LA

School: California State, Los Angeles
 Architecture: PTRR PHEV
 Fuel: E85
 Power Plant: GM LE9 2.4 L
 Generator: N/A
 Front Transmission: N/A
 Front Traction Motor: N/A
 Rear Trans. & Traction Motor: Magna E-Dr
 Energy Storage: 16.2 kWh, 292 V

EcoCAR2
 PLANNING FOR THE FUTURE



ABOUT THE COLLEGE

Founded in 1953 as the Department of Engineering, our programs expanded through the years, and today's College of Engineering, Computer Science, and Technology was established in 2001. In the fall of 2014, the College enrolled 2,500 undergraduate and 700 graduate students. With accredited degree programs in Civil, Electrical, and Mechanical Engineering, Computer Science, and Industrial Technology – as well as California's only public university programs in Aviation Administration, Fire Protection Administration, and Graphics Communication – the College prepares students for a broad range of successful technical and management careers in California's competitive job market.

With strong ties to industry, the public sector, and national laboratories, our College offers students academic programs and student design experiences that have gained national recognition. In 2014, *U.S. News & World Report* ranked the College #8 among the nation's engineering colleges at non-doctoral granting public institutions.

In 2013, the campus welcomed new president William A. Covino, who is driving an ambitious university-wide agenda focused on student success and community engagement with the Los Angeles region. This year, the College was the beneficiary of a \$1 million endowment from the Sikand Foundation to support faculty research in urban sustainability for the L.A. region. Fall 2016 will see our conversion from a quarter to semester calendar, and with significant faculty hiring underway, we are ready to help build the future of Los Angeles.

In 2014, *U.S. News & World Report* ranked the College #8 among the nation's engineering colleges at non-doctoral granting public institutions.

LETTER FROM THE DEAN

Dear Friends and Colleagues,

We're pleased to present the five-year strategic plan for Cal State L.A.'s College of Engineering, Computer Science, and Technology. This plan will guide us as we grow into the College we aspire to be.

In my 15 months as Dean, I have learned that the College is one of the best-kept secrets in Los Angeles. Our graduates are everywhere. They manage aerospace companies and develop tech start-ups. They work in our world-leading entertainment industry. They improve and manage our power systems, highways, airports, fire departments, and water systems for the city and county of Los Angeles. They are pursuing advanced degrees, and work as teachers and professors.



Emily Allen, Dean

College of Engineering, Computer Science, and Technology

I also have come to appreciate that one of the attributes that makes us special is the diversity of our students. Many are the first in their families to attend a four-year university; they are deeply engaged and committed to their families and communities. I take pride in knowing that the College provides access to higher education for our students to achieve their personal goals and make a difference.

As our students transition into the workforce, how we prepare them is crucial. Employers seek technical professionals who are ready to solve tough problems on day one – engineers with hands-on experience, computer scientists with innovative ideas, and technical administrators capable of improving our nation’s infrastructure. Just as technology advances daily, so must we. We are growing bigger, but we must also become better.

In the pages that follow, we outline our vision and goals, and the initiatives that will guide us as we deliver on our commitments. We could not do this without you, and we are deeply grateful for your support.

Please visit us, engage with us, and help us realize our dreams.

Best regards,

A handwritten signature in black ink, appearing to read "E. Allen".

Emily Allen, Dean

*College of Engineering, Computer Science,
and Technology
California State University, Los Angeles*

STUDENT SUCCESS

IS AT THE CORE
OF EVERYTHING
WE DO

*from our current activities
to our hopes, dreams, and
plans for the future.*

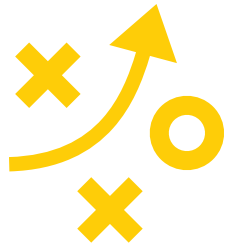
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STRATEGIC PLAN

VISION

Our vision is to be known for distinctive, student-centered programs that develop innovative professionals ready to solve the complex technical problems of our time.



MISSION

Our mission is to successfully prepare the next generation of engineering, computer science, and technology professionals for Los Angeles and beyond.

MOTTO

Commit to Excellence.
Engage in Community.





EQUIP
encourage



BUILD & _____
GROW *nurture*
cultivate PROVIDE
_____ **FOSTER**

OUR COMMITMENTS

Nurture a deeply engaged faculty and staff committed to enabling student success through quality curriculum, practical experience, responsive teaching, and active learning

Equip our classrooms, labs, and facilities with modern, state-of-the-art tools and technology

Encourage a vibrant research and innovation community that engages our students and addresses the needs of society and the world

Provide holistic student advising and mentoring for academic growth, career preparation, and development of leadership and community engagement skills

Cultivate an inclusive, open, and collaborative culture that instills a sense of community, connection, and engagement

Foster strong industry, government, and community partnerships that provide rich opportunities for us to learn, to serve, and to advance knowledge

Build and grow a proud and engaged alumni network dedicated to supporting the College



**CAL STATE L.A.'S
UNDERGRADUATE
ENGINEERING PROGRAM**

*has been ranked among the nation's
best by U.S. News & World Report
for more than a decade.*

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OUR VALUES

Excellence: We constantly strive for excellence in teaching, learning, research, and mentoring. We seek continuous improvement in our work, operations, and interactions with each other and our broader community.

Discovery: We challenge each other to be deeply engaged in learning and research, to think critically and innovatively, and to take risks in a lifelong pursuit of knowledge.

Collaboration: We encourage a culture of collaboration and communication to achieve shared goals, cultivate our best thinking, and increase our individual and collective impact.

Inclusivity: We embrace diversity and foster a college community that respects and welcomes differences in culture, background, and perspectives. We strive to reach out and offer opportunities for all to learn and contribute.

Integrity: We uphold high ethical, academic, and professional standards through accountability, transparency, honesty, and mutual respect.

Excellence
DISCOVERY
Collaboration INCLUSIVITY
Integrity

Many of our students are the

first
—in their families

to attend college, and
sometimes the first to
graduate high school.

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STRATEGIC PLAN DRIVERS

Located five miles east of downtown Los Angeles, Cal State L.A. serves more than 25,000 students who make up one of the most ethnically, linguistically, and socio-economically diverse populations in the nation. The demographics of undergraduates at the College include: 56 percent Hispanic, 19 percent Asian-American, 8 percent White, 3 percent African-American and 8 percent international. Of these, 16 percent are female and 84 percent are male. Our graduate student population is 65 percent international and 35 percent domestic. Many of our students are the first in their families to attend college, and sometimes the first to graduate high school.

ECST students are bright, engaged with their communities, and highly motivated to succeed. Many have grown up with little experience at navigating college, managing their lives to promote academic success, or opportunities to explore

professional career options. Our College spends considerable resources helping prepare our students for their careers both academically and by developing leadership skills and orientation towards civic and community engagement. We know we are creating the next generation of technical professionals and engaged citizens for Los Angeles and beyond.

Our excellent and highly accomplished faculty are committed to teaching, and to mentoring students for success through research and projects. Our Student Success Center is staffed by dedicated professionals who provide exceptional student advising, outreach to local schools, and career preparation programs. Administrative and technical staff support the College's academic, research, and innovation agendas and ensure that our faculty can provide students with the most up-to-date education.

Nothing is more important to the College than the success of our students. This commitment is at the core of everything we do – from our current activities to our hopes and dreams for the future. It is the primary driver of our strategic plan.



STRATEGIC FOCUS AREAS

STUDENT SUCCESS

Our paramount commitment is to help our students discover their strengths, develop their aspirations, and reach their full potential every day through engaging and supportive learning environments.



FACULTY AND STAFF EXCELLENCE

A faculty and staff engaged in innovative research, equipped with modern facilities and labs, will result in research and project opportunities for our students, and professional growth and satisfaction.



COMMUNITY ENGAGEMENT

Establishing ties and partnerships with industry, community, alumni, and peer institutions benefits our College, our local economy, and helps us prepare our students for career success and lifelong learning.



STUDENT SUCCESS

Our commitment to the success of our students is paramount. We strive to help our students discover their strengths, develop their aspirations, and reach their full potential every day through engaging and supportive learning environments. Our satisfaction comes from watching our students achieve their educational goals and become ready and able to enter the workforce as confident and productive contributors from their first day on the job.

GOALS

- 1 Prepare students for their challenging ECST professions by supporting, expecting, and rewarding academic success and entrepreneurial spirit in their undergraduate and graduate work.
- 2 Ensure that students gain the necessary technical know-how by engaging them in active-learning classrooms as well as in design, research, and hands-on projects throughout their time at ECST.
- 3 Provide rich opportunities for career preparation, job placement, and career advancement, including entry into graduate programs.



KEY INITIATIVES

Create a hands-on **First Year Experience** program, including creation of an ECST Freshman Design Lab. This will allow students to sample all ECST majors before committing to one, and provide them with experience in teamwork and basic principles of design.

Enhance and expand **Summer Bridge programs**, starting with high schools and continuing through the Freshman-Sophomore transition.

Improve instructional laboratories and **project facilities** to enhance opportunities for students to develop technical know-how. Develop a culture of makerspaces and creativity, from coding to machine shop.

Increase **professional practice opportunities** throughout students' college careers. Develop formal internship programs, as well as professional workshops, networking, and mentoring opportunities. Increase the quality and impact of our senior capstone project program.

Elevate student and faculty expectations of **student academic performance** via policies, practices, and communication with students.

Improve **graduate program administration** and increase the number and impact of **research opportunities** for both undergraduate and graduate students.

Increase the number of female students enrolling in ECST majors, and ensure that the college climate is **inclusive** for all students.

COMMUNITY ENGAGEMENT

Establishing ties and partnerships with industry, community, alumni, and peer institutions benefits both our College and our local economy. Our students gain real-world work experiences, our faculty stay closely aligned with trends and innovations in their respective fields, and our industry partners and community gain a well-prepared generation of engineering and technical talent. Additionally, involvement in preparation and recruitment of the next generation of diverse students for ECST keeps our pipeline robust, and staying connected with our alumni promotes mutual success and lifelong learning.

GOALS

- 1 Increase industry, peer institution, and cross-campus partnerships.
- 2 Increase K–12 and community college collaboration and engagement.
- 3 Improve alumni engagement and giving.



KEY INITIATIVES

Develop **Extended Education** graduate programs and certificates for industry partners, public sector employees, and the general public.

Increase capacity to partner with employers for development of **internship programs** and improved career preparation programs.

Increase **outreach to ECST alumni** to encourage ongoing engagement and giving to the College.

Increase **engagement with high schools** and **community colleges** to ensure we have a healthy and diverse pipeline of well-prepared students ready for ECST majors. Develop student ambassador programs and more programs for STEM teachers to engage with our College.

Partner with **faculty and staff across campus**, collaborating on research proposals, advising models, learning communities, and community outreach.

FACULTY AND STAFF EXCELLENCE

Support for a strong faculty and staff engaged in relevant research, equipped with modern facilities and labs, and offering research and project opportunities for students will contribute to knowledge, professional satisfaction, and pedagogical innovation. An inclusive campus family with a culture that supports career growth will also make a tremendous difference in the growth and success of our students.

GOALS

- 1 Foster an inclusive, transparent, and collaborative culture within ECST and across Cal State L.A.
- 2 Support the development of research funding and opportunities for faculty and students.
- 3 Enhance professional development for faculty and staff.
- 4 Develop appropriate and innovative spaces for what we do.



KEY INITIATIVES

Support faculty hiring, research development, and curricular offerings in the following areas:

- Urban Sustainability (Water, Energy, Transportation, Buildings)
- Advanced Manufacturing, Aerospace, and Material Science
- Robotics, Embedded Sensors, and Smart Structures
- Cyber Security, Gaming, and Data Science
- Biomedical, Biomechanics, and Health Informatics
- Innovation and Best Practices in STEM Education

Significantly **increase the number of tenured and tenure-track faculty** to match the enrollment growth of the College.

Provide increased **professional development opportunities** for staff and faculty (including lecturers). Create a **teaching and learning academy** for new and continuing faculty. Build faculty/staff learning communities in support of new models of **student advising**.

Streamline and improve College **operational efficiency, transparency, and communications**.

Ensure we have enough **staff** to support the operations, research, and educational mission of the College.

Create **innovative teaching and learning environments**, and collaborative uses of research space.

STRATEGIC PLANNING PROCESS

The College launched a strategic planning effort in January 2014. The process was designed to ensure input and collaboration from faculty and staff, current and past students, and industry and community partners. Planning took place over the course of 2014. Key milestones are outlined below:

Strategic Planning Kick-Off: Faculty and staff were asked to provide their perspectives on the key strengths of the College and to identify opportunities for further development, growth, or improvement. They also were engaged in a visioning exercise.

Strategic Planning Task Force: A faculty and staff task force consisting of representatives from each academic department and the Dean's office was convened to develop the plan. The task force met in the summer of 2014 to review all available data, discuss stakeholder input, and build out the specifics of the plan. Data available included student surveys (with input from more than

300 students), College data, industry partner comments, and other surveys conducted previously around the College's brand and reputation.

Dean's Advisory Board Input: In June 2014, the Dean's Advisory Board (DAB) – which comprises industry and community partners who dedicate time, expertise, and resources to support the College – provided feedback on planning efforts to date.

Faculty and Staff Input Session: Faculty and staff were convened once again in September 2014 in an interactive workshop to review work to date and ensure all faculty and staff could give their input on the proposed mission, vision, values, focus areas, goals, and initiatives.

Final Review: Feedback from all stakeholders was incorporated into the draft of the strategic plan and reviewed for final approval and support at the faculty and staff meeting in January 2015.



graphic
footprints

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