College of Engineering, Computer Science, and Technology

AALT Update
California State University, Los Angeles
February 7, 2017
Engineering Ranking
USN&WR

• Ranked #7 in the nation among public, non-doctoral granting institutions (excluding military academies)
• Ranked 4th in the West
College Updates: Facts & Figures
FALL 2016 Enrollment
(3053 UG, 639 GR)
ECST Graduate Demographics

- Hispanic: 15%
- Asian: 12%
- Intnatl: 63%
- White: 7%
- Black: 1.2%
- Unknown: 1.4%
- Two or More: 1.2%

College of Engineering, Computer Science, & Technology
Gender Breakdown

Women:
- GR: 18%
- UG: 15%

Men:
- GR: 82%
- UG: 85%
New Enrollment Growth

- **All New Frosh**
- **Women Frosh**
- **All New XFR**
- **Women XFR**

2009 to 2016
195 Personnel (123 FTE)
Student/Faculty Ratio = 75

49 tenured/tenure-track faculty (excl FERPs):
   32 tenured, 17 Asst Prof

115 part-time lecturers (43 FTE)

31 management & staff:
   8 student success, 7 techs
   11 administrative, fiscal, communications
   5 MPP

2016-17 Searches: 9 Fac, 1 Tech
STRATEGIC PLAN IMPLEMENTATION
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.

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.

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.
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.
Building community and communication within ECST

- Faculty and Staff weekly e-Newsletter
- ECST Family Taco BBQ (Sat, September 24)
- ECST K-12 Open House (Sat, October 15)
- New ECST Student Org Council (ESOC)
- Movie series (Star Wars, Hidden Figures)
2nd Annual ECST Family & Friends Taco BBQ!
Sep 24, 2016
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.
Engaging Our Alumni
Unsolicited ECST Donations

- Total amount
- # of private donors

# of donors

$$ amount

- 2013
- 2014
- 2015
- 2016

$- 
$20,000
$40,000
$60,000
$80,000
$100,000
$120,000
$140,000
$160,000
$180,000
$200,000
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.
Makerspace Task Force:

*Brainstorm* a centralized ECST Maker Space/Design & Fab Shop/Engineering Know-How Space Facility

Scope of the Makerspace

Priority of Users

Safety Aspects

Sustainability and Management of Space

Needed and Existing Equipment

CSUN and PCC Visit Notes

Interviewing design teams now
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.
ECST Advising Council

- Chairs
- All SSPs
- All lead faculty advisers
- Anyone who wants to come to lunch!
- Developed Progress-to-degree policy
- Shares tools, processes and practices
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.
Recent External Funding

“Pore-Mushy Zone Interaction during Directional Solidification of Alloys: Three Dimensional Simulation and Comparison with Experiments,” NASA, $240k, PI: Mohsen Eshraghi, Mechanical Engineering

“Influence of Thermosolutal Convection on the Cellular/Dendritic Pattern Formation during Directional Solidification of Single Crystal Metallic Alloys,” NASA, $600k, Co-I: Mohsen Eshraghi, Mechanical Engineering

“Evaluation of Metrics and FAA Tools for Climate Impacts from Aviation,” Federal Aviation Administration (FAA), $40K, PI: Arezoo Khodayari, Civil Engineering

Tier 1 University Transportation Center devoted to the advancement of Underground Transportation Infrastructure – w/ Lehigh and Colorado School of Mines – USDOT – up to $250K/yr for 5 years, PI: Tona Rodriguez, Civil Engineering
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

COLLEGE OF

ENGINEERING, COMPUTER SCIENCE, & TECHNOLOGY
2nd Annual ECST Teaching and Learning Academy

• August 2016
  – Engaged and Inclusive Classrooms
  – 56 participants
  – Student Panel

• Feb 2017
  – Monica Kress, SJSU,
  – STEM Student Success: Focus on Physics
  – Teacher-Scholar Forum

COLLEGE OF ENGINEERING, COMPUTER SCIENCE, & TECHNOLOGY
ECST Acceleration Initiative

**STEP**
Summer program for freshman transition to ECST programs

**FYrE@ECST**
Provides freshmen STEM skills and support

**LaunchPad**
Summer program that aims to surge ECST women student enrollment to 25 percent by 2020

**MESA**
Middle and high school STEM program supporting teachers and students

**BOOST**
Transitions students into their second year with a community-based summer engineering project

ECST offers a range of programs to recruit and support students as they begin their ECST journey, with the goal of preparing them to successfully complete their degrees and speed ahead into their STEM career.
LaunchPad

- Pilot Summer 2017
- 30 young women – rising HS seniors
- Introduction to engineering
- Peer mentors
- Industry visitors
- Project-based
- Faculty team assembled
BOOST

- NSF-funded pilot
- 30 students summer 2016
- Rising ECST sophomores
- Service-learning engineering projects
FYrE@ECST

• Helmsley-funded pilot
• Includes STEP (summer program for incoming freshmen)
• Cohorting in Math & Physics
• New Engineering 1500 course
• Supplementary Instruction w/ Peer Mentors
FYrE@ECST Pilot Results

- FYrE = attended STEP 2015; 30/32 remained in ECST at end of Y1
- CG2 = attended STEP 2015; 30/33 remained in ECS majors at end of Y1
- CG3 = attended STEP 2014; 30/33 remained in ECS majors at end Y1
Number of Terms enrolled in Math - first year

- Total FYrE in STEM
- Total CG-2 still in STEM
- Total CG-3 still in STEM

Number of Terms enrolled in Math - first year:
- Math - 0 terms
- Math - 1 term
- Math - 2 terms
- Math - 3 terms
STEM GPA < 2.0 after 1 year

- FYrE-15 (n=30): 20%
- CG2 - 15 (n=30): 45%
- CG3-14 (30): 30%
FYrE Next Steps

• Add a cohort for Computer Science
• Pilot an Engineering Problem Solving course as precursor to Physics