New Faculty Orientation
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MISSION ELEMENTS

› Students (UG, MS-Professional, PhD)
› Faculty
› Academic Programs
› Research and Scholarship (And corporate relations)
› Innovation and Entrepreneurship
› Programs Outside the Curriculum and Career Development
› K-12 Outreach
› Global Outreach
1. Global Attractor of Talent
students, faculty, staff from anywhere and provide culture and environment for them to flourish.

2. Continuously add value
to curriculum, programs, infrastructure.

3. Lead to advance solutions to world challenges
from energy and sustainability to security and infrastructure, to health and medicine, and to scientific and technological discovery.

4. Use engineering+ as catalyst for innovation
to fuel economic growth of Los Angeles, Southern California, the United States, and the world.
TECHNOLOGY: EXPLOITING A PHENOMENON* FOR USEFUL PURPOSES

- PHYSICAL (e.g. Photoelectric Effect)
- CHEMICAL (e.g. Catalysis)
- GEOLOGICAL (e.g. petroleum)
- BIOLOGICAL (e.g. Brain Imaging)
- SOCIAL-BEHAVIORAL

*And combinations of phenomena or technologies
**Including the discovering of new phenomena
ENGINEERING + X

Where X is anything!

E.g. Media, Medicine, Entertainment, Biology, Education,…

Three pathways: E2X, X2E, EU X

Note: E and X can be vectors (multidisciplinarity)
SUSTAINABILITY
Make Solar Energy Economical, Provide Energy from Fusion, Develop Carbon Sequestration Methods, Manage the Nitrogen Cycle, Provide Access to Clean Water

SECURITY
Secure Cyberspace, Prevent Nuclear Terror, Restore and Improve Urban Infrastructure

HEALTH
Engineer Better Medicines, Advance Health Informatics, Reverse Engineer the Brain

ENRICHING LIFE
Enhance Virtual Reality, Advance Personalized Learning, Engineer the Tools of Scientific Discovery

SOCIETAL ORGANIZATION?
Exploiting Social Phenomena (Through Digital Media, etc.: BIG DATA)
• Convergence
• Connectedness
• Culture
Useful Purposes

TECHNOLOGY: EXPLOITING A PHENOMENON FOR *USEFUL PURPOSES*

- ETHICAL-MORAL
- UNINTENDED CONSEQUENCES
- COMPLEXITY
- POLICY

DECIDE: Center on Decision Making
VITERBI AT A GLANCE

USC Engineering began in 1905

CELEBRATING 110 YEARS: 11 YEARS SINCE THE NAMING

Academic Programs

15 Bachelor's programs
17 Active minors
58 Master's programs
13 Doctoral programs

Eight Academic Departments

Student Population

2,700 Undergraduate students
5,200 Graduate students

Alumni
More than 65,535

Faculty

180 tenure-track faculty
8 winners of PECASE Early Career awards
36 total National Academy of Engineering members
7 National Academy of Science members
62 endowed chairs and professorships
22 full-time, tenure-track National Academy of Engineering members

Annual Research Expenditures
$185 million
45 research centers and institutes

More than 64 National Science Foundation Career Award winners
We will play in Silicon Beach the same role that Stanford plays in Silicon Valley.
Transform Silicon Beach into SCilicon Beach!
$500 Million Goal
so far raised $392.2M
Official launch: April 2013

Creating the World that Never Was
• Problems are inevitable
• All Problems are solvable

(From David Deutsch’s book “The beginning of infinity”)