ACADEMIC PLAN FOR ENROLLMENT AND MASTER PLAN UPDATE

Exploring Cal Poly’s Future Leadership Opportunities

January 23, 2015
AGENDA

10:10 am  Welcome and Academic and Master Planning Update
           Review of Tier 1 and 2 program narratives regarding the future
           Expectations for Tier 3 program narratives, now due March 6

10:35     Emerging Approaches to Teaching and Learning: Interactive discussion
           Observations from the Center for Teaching, Learning and Technology

11:20     Enrollment Growth at Cal Poly: Identification of important growth considerations

11:55     Next Steps

12 noon   Adjournment
PLANNING CONTEXT

UNIVERSITY STRATEGIC PLAN

1995 UPDATE  - - -  VISION 2022

ACADEMIC and ENROLLMENT PLANNING

1999-2000 ENROLLMENT GROWTH PLAN  - - -  ACADEMIC PLAN FOR ENROLLMENT, 2014-15

Focused Plans and Actions
e.g., Campus Climate, Housing/Residential Community, Information Systems

PHYSICAL MASTER PLAN

2001 UPDATE  2009 VISION PLAN  MASTER PLAN UPDATE
1. What forces are shaping your discipline today?

2. In ten years, how will forces shape changes in your discipline? How will professional practice be affected?

3. What are the implications for your profession and continuing professional development?

4. How should the future developments affect the College/University? Our Strategic Planning process? Decisions over the next five years?

Norris, Donald et al. (2013), Transforming in an Age of Disruptive Change: Part 2: Getting Started, Getting it Done, *Planning in Higher Education*, 41:2, Figure 7 (redrawn)
## ACTIVITIES TO DATE

<table>
<thead>
<tr>
<th>2014</th>
<th>STRATEGIC PLAN</th>
<th>ACADEMIC PLAN</th>
<th>MASTER PLAN</th>
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<tbody>
<tr>
<td>May</td>
<td>Vision 2022</td>
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<tr>
<td>October</td>
<td>President’s Cabinet</td>
<td>2 Academic Workshops</td>
<td>Advisory Committees</td>
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<td>November</td>
<td>Academic Workshop;</td>
<td>Program Narratives</td>
<td>Advisory Committees; Outreach Events</td>
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<td>December</td>
<td>Leadership Workshop</td>
<td>CSU Academic Plan submittals</td>
<td>Advisory Committees; Capacity Studies</td>
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INTERACTIVE ACADEMIC AND MASTER PLANNING ACTIVITIES

**Academic Plan**
- Fall (2014): Apply *Vision 2022*; analyze program assets, explore future opportunities
  - Spring (2015): Develop phasing: two, five, ten and fifteen year actions

**Master Plan**
- Fall (2014): Explore assumptions, constraints; campus and community outreach
  - Winter (2015): Set *Master Plan capacity*; translate programs into facilities
  - Spring, Summer (2015): Draft *Master Plan* elements, *Draft EIR*
  - Fall (2015), Winter (2016): Complete *Master Plan* and *Final EIR*
WINTER QUARTER – CONCURRENT ACTIVITIES

• Academic Plan – continue exploring future opportunities, particularly with respect to emerging modes of teaching and learning and the implications for the physical master plan.

• Master Plan – continue developing future master plan principles and policies, working with advisory committees.

• Provost’s Task Force on Enrollment Growth – charged to lead discussion regarding the future size and composition of the University to guide Cal Poly’s academic plan and physical master plan.
ACADEMIC PLANNING (OCT.-DEC. 2014)
TIER 1 AND TIER 2 NARRATIVE

Tier 1 – Higher Education Today
a. What forces are shaping Cal Poly (and your discipline) today and into the future?

Tier 2 – Projections to 2030
a. Who will our students be?
b. What will the global and regional economy be like?
c. What will we be preparing our graduates to do?
d. What will your students need to learn to be successful?
e. What are the implications for emerging fields and integrated learning that goes beyond traditional disciplines?

Note: The next slides summarize responses to date from academic departments, Cal Poly leadership, and the President’s Cabinet.
**ACADEMIC PLANNING (OCT.-DEC. 2014) TIER 1 AND TIER 2 NARRATIVE**

**Tier 1 – Higher Education Today**

*a.* What forces are shaping Cal Poly (and your discipline) today and into the future?

**Most Important**

- Decline in public funding
- Increase in private funding

**College Notes (examples)**

- Concern about public funding for research (CAFES, CSM)

*Note: Summary of responses from academic department narratives, Cal Poly leadership, and President’s Cabinet input*
 Tier 2 – Projections to 2030

a. Who will our students be? What are their expectations and interests likely to be?

Most Important

- Increasingly diverse (more inclusive)
- Needing appropriate services
- Uneven K-12 preparation
- Learning expectations

College Notes (examples)

- STEM fields in particular
- Transfer students as opportunity for diversity (CENG, CLA)
- Common Core and NGSS – better math and science prep (CENG, CSM)
- Weaker critical thinking and writing (CLA)

Note: Summary of responses from academic department narratives, Cal Poly leadership, and President’s Cabinet input
Tier 2 – Projections to 2030

b. What will the global and regional economy be like?

Most Important

- Globalization
- Climate change
- Technology
- Political gridlock

College Notes (examples)

- Opportunities for curricula, graduates (CAED, CAFES, CENG, CSM)
- Perceived technology gap between students and faculty; tech ‘savvy’ not necessarily tech ‘literate’ (IS)

Note: Summary of responses from academic department narratives, Cal Poly leadership, and President’s Cabinet input
ACADEMIC PLANNING (OCT.-DEC. 2014)
TIER 1 AND TIER 2 NARRATIVE

Tier 2 – Projections to 2030

c. What will we be preparing our graduates to do?

Most Important

- Work and workplace change, multiple careers
- Working with new discoveries, emerging fields

College Notes (industry examples)

- CAED – changes to building industry
- CAFES – global food production
- CENG – additive manufacturing, biomed
- CLA – versatility
- CSM – health and wellness
- OCOB – specialized business fields

Note: Summary of responses from academic department narratives, Cal Poly leadership, and President’s Cabinet input
Tier 2 – Projections to 2030

d. What will your students need to learn to be successful?

General Competencies

• Communication – written, oral, graphic
• Collaboration, working with people
• Social equity, justice, ethics
• Problem-solving, critical thinking
• Complexity, interdependencies
• Technological literacy, data analytics
• Global awareness
• Leadership, innovation, change management
• Life skills

College Notes

• Mastery

Note: Summary of responses from academic department narratives, Cal Poly leadership, and President’s Cabinet input
Tier 2 – Projections to 2030

e. What are the implications for emerging fields and integrated learning that goes beyond traditional disciplines?

Most Important

• Interdisciplinary; cross-disciplinary; multidisciplinary thinking and collaboration

College Notes (examples)

• CAED – sustainability, product design
• CAFES – data management, applied science
• CENG – data analytics, biomed
• CLA – science, technology & society
• CSM – data science, science education
• OCOB – entrepreneurship, ‘big data’

Note: Summary of responses from academic department narratives, Cal Poly leadership, and President’s Cabinet input
Tier 2 – Projections to 2030

Additional observations regarding teaching and learning practices

Most Important

• Learn by Doing
• ‘High impact practices’
• Learning outside the class room
• Potential for alternative delivery modes

College Notes (examples)

• CAED – living laboratories
• CAFES – peer teaching/learning
• CENG – integrated work experience
• CLA – diverse learning environments
• CSM – research-based curricula
• OCOB – flexible offerings

Note: Summary of responses from academic department narratives, Cal Poly leadership, and President’s Cabinet input
ACADEMIC PLANNING (OCT.-DEC. 2014)

Additional observations regarding teaching and learning practices from a discussion by the Master Plan Advisory Committee on Academic and Instructional Space

**Opportunities (examples)**
- Learning occurs everywhere
- Learning as a social experience
- Problem-based learning focused on ‘wicked’ or ‘risky’ situations rather than ‘set’ problems
- Interactive/immediate feedback
- Self-directed/empowered
- Accommodation of different learning needs
- Displacement of the credit, the course, the classroom, and the degree
- Technology-enabled (e.g., simulation)
- Intentional design of flexible learning space

**Concerns (depth of learning)**
- Confusion between information and knowledge
- Holistic understanding; sequential knowledge and skill building in ‘just in time’ world
- Balancing general and specialized education
- Balancing flexible and specialized space needs
a. How can the teacher-scholar model and collaborative research and partnerships help Cal Poly both anticipate future needs and develop innovative responses (in general, and in your discipline)?

b. **Teaching and Learning.** (1) What effective approaches to teaching and learning are emerging in your field and related interdisciplinary areas? (2) What learning environments should Cal Poly develop or modify to accommodate new modes of teaching and learning in the future? Please respond in terms of the kinds of teaching and learning spaces that are critical to your discipline for both (a) formal, scheduled or organized instruction, and (b) informal learning outside the classroom or laboratory.

c. **Learn-by-Doing.** (1) How should Learn-by-Doing incorporate new learning needs, opportunities and technologies (in your field and related interdisciplinary areas), and (2) what are the facilities implications for both (a) formal instruction and (b) informal learning?

d. What should the leading comprehensive polytechnic university of the future be like?
a. Teaching, Learning, Scholarship

For the academic programs you expect to offer and the students you expect to serve:

1) What effective approaches to teaching and learning are emerging in your field and related interdisciplinary areas?
2) How should Learn by Doing incorporate new learning needs, opportunities and technologies (in your field, etc.)?
3) How does the teacher-scholar model fit (again in your field, etc.)?

b. Learning Environments

What learning environments should Cal Poly develop or modify to accommodate (1) new modes of teaching and learning, (2) Learn by Doing, and (3) the teacher-scholar model in the future? Please respond in terms of the qualitative characteristics of the facilities and other spaces (including technology) critical to your programs and students:

1) Formal, scheduled or organized instruction,
2) Informal student learning outside the classroom or laboratory, and
3) The teacher-scholar model.
ACADEMIC PLANNING, WINTER 2015
TIER 3 – CONSIDERATIONS

• Academic Mix (including state-support/self-support funding)
  – Program mix/college shares (program headcount; FTES including GE and support)
  – Undergraduate/post-baccalaureate/graduate mix (by college)
  – CA resident/domestic non-resident/international student mix (by college, by level)

• Teaching and Learning (by program and student level)
  – Learn by Doing; Teacher-Scholar
  – Pedagogy/learning modes (e.g., delivery, engaged learning, undergraduate research, community service, internships/field placements, study away, study abroad, technology, session structure)
  – Space, infrastructure and information systems implications

• Co-curricular Learning (in general and by program, level)
  – Discipline-based activities; student life more generally
  – Residential community

• Student Success (in general and by program, level)
  – Retention, graduation rates; preparation at entry, achievement gaps; student diversity (gender, ethnic origin, financial means)
EMERGING APPROACHES TO TEACHING AND LEARNING

STEP 1 – INTRODUCTIONS AND GENERATE LIST (5 MIN.)

5 minutes

- Introduce yourselves to one another.
- Briefly identify emerging approaches to teaching and learning that apply to your field or related interdisciplinary areas.
- Write each on a separate Post-It™ note.
- Also, indicate what particular students the approach would serve (e.g., student level; majors, non-majors; etc.)
EMERGING APPROACHES TO TEACHING AND LEARNING

STEP 2 – SHARE WITH A PARTNER (2 MINUTES)

• With the person next to you, discuss the emerging approaches and whether you have tried any of them yourself.
EMERGING APPROACHES TO TEACHING AND LEARNING

STEP 3 – SHARE WITH THE GROUP (10 MINUTES)

• Share your approaches with the entire group. As you do, identify approaches that are common to several fields or groups of students as well as those that are more unique, and place them on the larger (flipchart) Post-It™ sheet.

<table>
<thead>
<tr>
<th>Applicable across Fields</th>
<th>Unique (specify which field or student group)</th>
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<tbody>
<tr>
<td>Approach A</td>
<td></td>
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<tr>
<td>Approach B (the arts)</td>
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<tr>
<td>Approach C (lab sciences)</td>
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</table>
EMERGING APPROACHES TO TEACHING AND LEARNING

STEP 4 – SELECT POINTS TO REPORT OUT (3 MINUTES)

- Highlight key points from your discussion to share with the entire workshop.
EMERGING APPROACHES TO TEACHING AND LEARNING
STEP 5 – BRIEF REPORTS (1 MINUTE EACH)
EMERGING APPROACHES TO TEACHING AND LEARNING:

OBSERVATIONS FROM CTLT

A few ideas about:
(1) Core, essential skills for our graduates
(2) Elements of exemplary teaching
(3) Vision for learning spaces
EMPLOYERS’ PERSPECTIVES

When asked to weight the relative importance of skills that potential new hires bring, employers consistently emphasize the following skills on par or above knowledge in a specific discipline or major:

What do you think they say?
Learning Outcomes that at Least Four in Five Employers Rate as Very Important

Proportions of employers rating each skill/knowledge area as very important for recent college graduates to have*

- Oral communication: 85% (78%)
- Working effectively with others in teams: 83% (77%)
- Written communication: 82% (75%)
- Ethical judgment and decision-making: 81% (74%)
- Critical/analytical thinking: 81% (79%)
- Applying knowledge/skills to real world: 80% (79%)

*8, 9, 10 ratings on zero-to-10 scale, 10 = very important

2015 Survey
Applying knowledge/skills to real world

CriOcal/analyOcal thinking

Wrieen communicaOon

Oral communicaOon

Ethical judgment and decisionmaking

Working with others in teams

College graduates' and employers' ratings of students' preparedness

Hart Research Associates, 2015
EMPLOYERS’ PERSPECTIVES

“While these employers are somewhat concerned about recent college graduates’ not having necessary specific job or technical skills, they express the greatest frustration with the challenges of finding ‘360 degree people’ who have both the specific job/technical skills and the broader skills (communication skills, teamwork skills, problem-solving skills, and work ethic) necessary to promise greater success for both the individual and their employer.”

- Hart Research Associates
<table>
<thead>
<tr>
<th>Paradigm Shift: “Transmission” to “Active Learning”</th>
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<table>
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<tr>
<th></th>
<th>Old Paradigm</th>
<th>New Paradigm</th>
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<tr>
<td><strong>Students</strong></td>
<td>Passive vessels</td>
<td>Active constructors, discoverers, transformers of knowledge</td>
</tr>
<tr>
<td><strong>Knowledge</strong></td>
<td>Transferred</td>
<td>Jointly constructed</td>
</tr>
<tr>
<td><strong>Relationships</strong></td>
<td>Impersonal relationships</td>
<td>Personal relationships</td>
</tr>
<tr>
<td><strong>Context</strong></td>
<td>Competitive, individualistic</td>
<td>Cooperative, collaborative</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>Faculty holds authority, control</td>
<td>Faculty shares power</td>
</tr>
<tr>
<td><strong>Epistemology</strong></td>
<td>Reductionist: Facts and memorization</td>
<td>Constructivist: Inquiry and intervention</td>
</tr>
<tr>
<td><strong>Technology Use</strong></td>
<td>Drill and practice; textbook substitute; chalk-and-talk substitute</td>
<td>Problem solving, communication, collaboration, information, expression</td>
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LEARNING ENVIRONMENTS PRINCIPLES

• Learning Centered
• Flexible Functionality
• Inclusiveness
• Consistency
• Reliability
• Low Complexity

• Technology Provided for Instructors and Learners
• Support Provided for Instructors and Learners
Ecosystem View of Learning Environments
EMERGING APPROACHES TO TEACHING AND LEARNING:

OBSERVATIONS FROM CTLT

Documents available on the online project site:

- “Learning Environments For 21st Century ‘Learn By Doing’” DRAFT
- Classroom Design Menu (illustrated and annotated) DRAFT
WINTER QUARTER – CONCURRENT ACTIVITIES
ENROLLMENT GROWTH AT CAL POLY

• Academic Plan – continue exploring future opportunities, particularly with respect to emerging modes of teaching and learning and the implications for the physical master plan

• Master Plan – continue developing future master plan principles and policies, working with advisory committees

• Provost’s Task Force on Enrollment Growth – charged to lead discussion regarding the future size and composition of the University to guide Cal Poly’s academic plan and physical master plan.
PROVOST’S ENROLLMENT GROWTH TASK FORCE

Charge: to lead discussion regarding the future size and composition of the University to guide Cal Poly’s academic plan and physical master plan.

Timeline:
• January/February
  • Growth “Landscape” and Considerations
• March
  • Range of Growth Options
  • Principles for Considering Academic Mix
• Spring Quarter
  • Academic Mix
PROVOST’S ENROLLMENT GROWTH TASK FORCE: FRAMEWORK

Growth “Landscape”

• High demand for Cal Poly grads – esp. in STEM fields
• Strong Cal Poly applicant pool – in contrast to national trends, due to our unique mission and reputation
• State support alone inadequate for Learn by Doing – so decreasing share of overall budget
• Housing on campus for 1st and 2nd year students – contributes to student success, esp. for 1st Gen, STEM students
• More diverse students, faculty and staff – for diverse, global marketplace
PROVOST’S ENROLLMENT GROWTH TASK FORCE:

FRAMEWORK

Inextricably-linked Objectives

• Increase diversity and improve campus climate
• Ensure student success
• Establish financial security
How to Educate More Students - examples

• Increase graduation rates – makes room for additional students
• Use existing facilities more efficiently – during peak times and summer
• Encourage student involvement in internships, co-op, other study away and study abroad activities – high impact practices
ENROLLMENT GROWTH AT CAL POLY
STEP 1 – GENERATE LIST (5 MINUTES)

• Briefly identify what you believe is most important for Cal Poly to consider as the University thinks about increasing enrollment. Write each idea on a separate Post-It™ note.
ENROLLMENT GROWTH AT CAL POLY
STEP 2 – SHARE WITH A PARTNER (2 MINUTES)

• Compare your enrollment growth considerations with the person sitting next to you.
ENROLLMENT GROWTH AT CAL POLY
STEP 3 – SHARE WITH THE GROUP (10 MINUTES)

- Share your enrollment growth considerations with the entire group. As you do so, identify any common categories, label these, and group corresponding ideas (on the small Post-It™ notes) as you place them on the larger (flipchart) Post-It™ sheet.
ENROLLMENT GROWTH AT CAL POLY
STEP 4 – SELECT POINTS TO REPORT OUT (3 MINUTES)

• Highlight key points from your discussion to share with the entire workshop.
ENROLLMENT GROWTH AT CAL POLY
STEP 5 – BRIEF REPORTS (1 MINUTE EACH)
NEXT STEPS, QUESTIONS, ETC.

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