2018 Strategic Plan – Department of Civil and Environmental Engineering
University of California, Davis

ORGANIZATION

The Strategic Plan is subdivided into two sections:

1. A Vision Statement outlining the Department's identity and goals in the broad contexts of: (1) its philosophy for future faculty growth, and (2) education and student development.

2. An Implementation Plan identifying specific priorities, activities, and action-plans (within the broad contexts defined above) to fulfil the Department's identity and goals.

VISION STATEMENT

The Department's identity is rooted in academic excellence directed towards: (1) research resulting in high-impact solutions for problems of public and societal importance, and (2) education of students who possess technical rigor along with perseverance, integrity, and social consciousness. The technical excellence in the varied disciplinary areas is anchored by a common theme of collegiality, collaboration, and an emphasis on public service. This sense of identity translates to goals as outlined below:

- In the context of **future faculty growth**, the Department envisions itself as a collective of "Hubs" that represent core disciplinary strengths, connected by "Spokes" that represent interdisciplinary or emerging strengths. Within this construct, the Department prioritizes the enhancement and maintenance of core strengths along with associated Centers and research infrastructure. The Spokes represent opportunities to build on these well-established strengths. Future recruitments in both Hubs and Spokes are expected to be in the Professor series. Given its stature and current faculty size, the Department's growth strategy is based on the following considerations rather than emphasis on topical research areas: (1) interpretation of Civil and Environmental Engineering as a broad field, encompassing all systems with Civil need and civic/governmental interest to invest, (2) prioritization of areas that serve societal needs, (3) relationships to existing campus resources and expertise, (4) fairness to current faculty in terms of workload, and (5) impact on staff, space, and other Departmental Resources.

- In the context of **student education and development** (at both the undergraduate and the graduate levels), the Department aims to impart current and relevant technical knowledge with an emphasis on the ability to define and address ill-defined Civil problems. An equally important educational goal is instilling a long-term view of career trajectory and societal impact, along with the personal qualities of perseverance and hard-work. The Department aspires to reflect the diversity of California's population within its own student body.

Following the goals outlined in the Vision Statement, the Implementation Plan is organized around the three areas of: (1) faculty hiring, (2) education and student development, and (3) consolidating and enhancing its identity. Within each area, high-priority activities are identified accompanied by action plans.

Faculty Hiring
Opportunities for new faculty recruitment in the Professor series may be classified as "Department-Initiated" positions, the need for which is articulated from within the Department, and "Externally-Initiated" positions that arise from initiatives such as the Provost's Hiring and Investment Program (HIP), or through searches conducted by other units on campus. The Department will apply distinct considerations for evaluating these two types of opportunities.
- For **Department-Initiated** positions, the following factors are considered important:
  o Succession plans for Department-based Research Centers, including the Pavement Research Center, Center for Geotechnical Modeling, and the Center for Bio-mediated and Bio-inspired Geotechnics.
  o Enhancement and maintenance of the Hub strengths, i.e., Geotechnical, Environmental, Structural, Transportation, and Water Resources Engineering.
  o Support of affiliated Organized Research Units including the Tahoe Environmental Research Center, Institute for Transportation Studies, Center for Watershed Research, and Energy Efficiency Center.
  o Expansion into interdisciplinary (Spoke) areas that connect two or more Hubs.
  o Integration with existing campus strengths and resources.

- For **Externally-Initiated** positions, the following factors will be used to evaluate opportunities:
  o Consideration of staff, space, startup, and teaching needs
  o Compatibility with the priorities of Department-Initiated hires

Within both categories (i.e., Department and Externally Initiated), the Department will prioritize positions that may be supported by external resources for startup packages, staff support, or space.

Education and Student Development
Three high-priority activities are identified for realizing the goals (in the Vision Statement) with respect to education and development. The Department has greater autonomy in the area of graduate education, with greater potential for impact of Department-initiated actions. As a result, the highest-priority activities (detailed below) are in the areas of graduate education.

Priority 1: Re-conceptualizing the MS Plan II Program
There is strong consensus that the current administration of the MS Plan II Program does not strategically deploy Department resources (e.g., faculty time) or facilitate timely completion of the degree. This inhibits successful recruitment of top students (in-state, out-of-state, as well as international), and limits growth of the Program, which is important from the standpoint of capitalizing on initiatives such as the Masters Enrollment Incentive Program (MEIP). Re-conceptualization of the MS Plan II program will feature the following elements: (1) optimal administration of the MS Plan II Comprehensive Exam, reducing the reliance on independent research projects, (2) course offerings that enable completion of the MS II in three quarters, and (3) formal introduction of written and oral communication into the graduate degree requirements.

These changes are all programmatic, such that well-established University processes are in place for their implementation. Consequently, a specific action-plan is not outlined.

Priority 2: Enhancing Diversity and Student Recruiting
As outlined in the Vision Statement, increasing graduate student diversity is a key priority. The Department identifies is own undergraduate population, as well as that of California State University (CSU) system as largely untapped pools of highly qualified graduate students. To build sustainable pipelines that draw students from these pools, the action-plan for Enhancing Diversity and Student Recruiting will contain the following elements:

- To recruit from the UC Davis undergraduate population, the following activities are envisioned:
  - Increased emphasis on advising regarding graduate school beginning sophomore year
  - Development of activities (e.g., funded UG research internships) to increase UG engagement and awareness regarding opportunities for graduate school
  - Development of a 4+1 MS program which dovetails with the above activities

- To recruit from the CSU system, the Department will develop materials and support travel for recruitment activities by faculty across the State, including Southern California.

It is anticipated that the costs for these activities will be offset by increased revenue from the growth in the Masters program, enabled by MEIP.

Priority 3: Tracking career outcomes for graduate students
The Department will track career outcomes for graduate students to enable more effective recruiting, advising, curriculum development, and mentoring. Tracking and engaging with alumni is also consistent with enhancing other aspects of the Vision, including external identity. The action plan for tracking graduate alumni mainly entails developing a database of their current positions – the Department is committed to allocating resources for this task. Other aspects of alumni engagement are detailed in the Implementation Plan for consolidating and enhancing identity.

Consolidating and Enhancing Identity
Several priorities were identified in this area, each with an action plan consisting of one or more strategies. The Priorities 1-3 pertain to internal identity, whereas the Priorities 4-6 pertain to external identity.

Priority 1: Developing and consolidating a cohesive department identity for faculty and graduate students

Strategy 1: Create well-attended Department-wide seminars. Select speakers with cross-cutting interests, plan well in advance, and create the expectation that all faculty and graduate students attend this seminar.

Strategy 2: Better communicate group-based and Department-wide events to encourage Department-wide participation. Create of a poster, bulletin-board, or display screen in the Ghausi Lobby.

Strategy 3: Improve graduate student orientation, by providing a department-wide orientation for incoming graduate students with opportunities for developing connections with other new and existing students and providing pragmatic 'how-to' training to set students up for early success.

Priority 2: Ensuring that students feel mentored, supported and part of a community

Strategy 1: Provide professional development opportunities during their degree (but outside of degree requirements), including targeted workshops on professional skills.

Strategy 2: Support the initiation of a student-led newsletter.

Priority 3: Department structure and culture that reflects department-wide cohesion and supports problem-oriented research efforts

Strategy 1: Facilitate periodic faculty brainstorming sessions around Spoke areas and large RFP calls.

Priority 4: Better communicate with prospective students, alumni, professionals, other academics, and the public

Strategy 1: Improve website; this is being done via a comprehensive effort at the College level, including a Department liaison. Connect website with individual faculty or group blogs.

Priority 5: Use media and social media platforms to promote our department, research, students and faculty to engage alumni, recruit prospective students, and attract relevant media outlets.

Strategy 1: Create a permanent Department Communications Committee, which will be charged with developing and implementing the Department social media plan, coordinating the Department newsletter, fostering direct communications with media outlets, and developing materials for communicating Department strengths.
Strategy 2: Advocate in the College for Department-focused communications and development activities.

Strategy 3: Create a repository of Department photographs.

Priority 6: Encourage a culture where students feel supported in their academic experience and desire to support the department when they become alumni

Strategy 1: Organize annual reception after graduation in Ghausi Hall, and explore organizing own graduation ceremony.

Strategy 2: Increase student awareness of how alumni contributions and faculty research grants affect their experience. Celebrate alumni gifts when received, by announcing on student mailing lists.

Strategy 3: Instill a culture of giving back by providing opportunities for recent alumni to donate starting with small contributions. The Department will find opportunities for recent graduates to donate small gifts (e.g. $5-20). These opportunities will be directly related to student experiences and may include support of senior design projects, department-affiliated student organizations (e.g., AWWA, EWB, ASCE, Chi Epsilon, and O-STEM), and other activities that directly affect students.