Tier 3 Curriculum, Pedagogy, Enrollment

Preamble: it is unclear to me why we even need to submit a Tier 3 document. We submitted a Tier 1 & 2 document and we are not sure what additional information we can provide. It is time-consuming to try and add more to the work done in the workshops and other submissions and it has uncertain value. Thus, I will try to recapitulate what AGB and others have already addressed.

a. How can the teacher-scholar model and collaborative research and partnerships help Cal Poly both anticipate future needs and develop innovative responses (in your discipline)?

Research and teaching collaboration and partnerships need time to develop. Scientific and pedagogic collaboration cannot be forced. Collaboration by necessity requires the contributions that each discipline can bring to addressing the problem or opportunity at hand is understood and appreciated by the participants. It is uncertain whether on this campus that is even close to the truth. It also needs to be stated that for some problems or opportunities collaboration is not necessary.

Time is needed to work through ideas and there needs to be an appreciation that some failure is inevitable in the process. An increased amount of time fulfilling increased administrative requirements (committees, paperwork, approval processes) by its definition takes time away from innovation. Faculty need space and time to informally gather and discuss ideas.

The filling out of reports to ask about innovation takes time away from innovation -- the exercise is sadly ironic. Finally, there have to be incentives for collaboration to occur: financial, obtaining research grants, self-actualization, etc.

Collaborative efforts for AGB could include future course design, team taught courses, development of new teaching pedagogies, new initiatives in the areas of big data and data analytics, and development of risk and uncertainty management tools.
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.

- Learning environments would include collaborative and case study discussion classrooms that provide for students learning with the instructor guiding the learning. This will allow for increased individual and group learning, activity based learning, and group problem-solving. Necessarily the collaborative classrooms will require up-to-date computing technology and access to data resource. We would also

- Continuation of efforts to “globalize” the curriculum is increasingly important.

- Continue to assess different teaching and learning pedagogies such as flipped class and hybrid instruction.

- Curriculum redesigned to increase opportunities for students to engage in critical and creative thinking, problem solving, decision-making, communications, and develop team-work skills.

- Continue to refine curriculum on how to effectively manage risk and uncertainty utilizing Management software, including simulations with hurdles and failures.

- Project management skills are essential to achieving efficiency today and in the future regarding the adaptation to sustaining and disruptive innovations, development and implementation of new products, application, processes, etc.

- Increase number of guest speakers to provide for real-time, real-world discussions on emerging issues; both economic and cultural that affect food, fiber, and affiliated industries.

- Human resource management; understanding cultural diversity and how it impacts the work force.

- Information and technological literacy

- Data analytics and analysis

- Independent thinkers operating as a fully functional team member.

- Graduates will be working in a global environment.
• Graduates will be risk managers

• Continued development of co-curricular activities is very important. The continued interest of students competing in industry sponsored contests promotes more self-actualization by students in that they are participating in a voluntary process, incorporating much of the learning from their classes into the activities in a way that does not resemble the stereotypical “check the box” type of learning and which they see is quite relevant to developing good jobs and careers.

• Supporting formal release/assigned time to manage teaching and learning activities. Allow departments to manage the release/assigned time will provide the flexibility to manage all of the above teaching and learning issues listed above.

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?

Learn-by-Doing can be accomplished a number of different ways. If a cross-section of faculty across the university was asked to define learn-by-doing we suspect there would be numerous definitions.

AGB utilizes client-based business and economics research projects to give students the opportunity to apply their coursework to “real world” problems and opportunities.

We want to keep and improve upon our internship program. It is among the largest agribusiness internships program in the nation. Field trips are an important part of extra-curricular learning and need to be funded and enhanced as learning opportunities. Participation in student contest also provide a value learn-by-doing experience Computer labs need to be converted to collaborative classrooms (Learning centers) for group and individual learning projects and simulation. Existing physical infrastructure has deteriorated and a plan on how to correct the deferred maintenance problem needs to be developed and funded.

d. What should the leading comprehensive polytechnic university of the future be like? How can the teacher-scholar model and collaborative research and partnerships help Cal Poly both anticipate future needs and develop innovative responses (in your discipline)?

There is a couple old sayings that are applicable to this question: “You can’t be all things to all people.” Another saying is that if “you have a large number of priorities you have no priorities.”

The saying that Cal Poly is a model for Learn-by-Doing needs to be critically thought through. Is Cal Poly as preemptive in the learn-by-doing educational philosophy as it was historically? Some faculty question whether that it currently true. Saying Cal Poly is does not mean it is true. Learn-by-Doing has been
under-funded on this campus for the last few decades. Cal Poly needs to really think thorough which programs on this campus really distinguish it from programs at the UC and the other CSU campuses.

The leading comprehensive (What does that even mean) polytechnic university must focus on its strengths. If the teaching-scholar and collaborative research program and partnerships are hallmarks of the learn-by-doing philosophy and a leading comprehensive polytechnic university then fund those programs first before trying and funding experimental support and politically correct programs.

A leading comprehensive polytechnic university can be defined by its ability to innovate whether the innovations are pedagogical, scholarship and creative activities, or other activities or some combination. A leading Innovation cannot be mandated but its culture can be promoted. The university must work to improve its capacity for providing an environment which allows more experimentation which means freeing the faculty from increased administrative control.

If the faculty have more control over their environment (in the classroom, in co-curricular activities, in pursuing self-determined departmental objectives) then they will likely be willing to focus on those activities which have strong intrinsically-motivated elements. Faculty are not cookie cutter images of each other rather they have differing comparative advantages. Allowing faculty, to the extent possible, exercise their comparative advantages will be a driving force in Cal Poly being a leading comprehensive polytechnic university.