



CALIFORNIA STATE UNIVERSITY, FULLERTON

College of Natural Sciences and Mathematics

Department of Geological Sciences

800 N. State College Blvd., Fullerton, CA 92831 / T 657-278-3882 / F 657-278-7266

DATE: April 6, 2015
TO: Su Swarat, Director of Assessment and Educational Effectiveness
FROM: Phil Armstrong, Chair, Department of Geological Sciences
SUBJECT: Chair's response to Dean recommendations on PPR

Interim Dean Bowman of the College of Natural Sciences and Mathematics made a number of commendations and recommendations on the Department of Geological Sciences 20-13-14 Program Performance Review. Below I provide a brief summary of changes enacted and planned based on the Dean Bowman's recommendations.

1. Department should identify a subset of research strengths.

Comments: We agree that "research strengths" are important. But we are a small department that already has distinct research strengths. We currently are responding to faculty retirements/changes and need to fill curricular needs in our program.

Changes enacted: We recognized Geoscience Education was a research/curricular strength/need. We searched for and hired Geoscience Education specialist Natalie Bursztyn to start in August 2015.

Changes Planned: At faculty meeting on April 29, 2015, we will discuss future hires. We plan to search for two faculty members next Fall and Spring. Our structural and field geologist Brady Rhodes is retiring this year, so one will almost surely be to replace him because structural geology and ability to teach field courses are critical to our curricular and HIP needs. The other position will be considered in the context of both research strengths and curricular needs on April 29.

2. Creation of "Professor of Practice" position for industry leaders to teach courses in the department.

Changes enacted: We are inviting more "professional" geologists as seminar speakers. In Fall 2015 we invited speaker from an oil company to talk on jobs in energy sector. In spring 2015, we invited speaker from local geotechnical company to talk on geo-ethics. We also are working with our student chapter of the American Association of Petroleum Geologists to sponsor and engage additional department participants and get industry leaders involved.

Changes Planned: Invite more guest lecturers for courses. In GEOL476 (Engineering Geology), the instructor will have more guest lecturers to speak on both job possibilities and real-life problems. In GEOL436 (Hydrogeology) we may hire a PT faculty member from local company to teach as sabbatical replacement. This will strengthen ties with outside industry, but our hands are somewhat tied by the CBA in hiring new PT temporary faculty. We've recently instituted an annual "Alumni of the Year" with the goal of getting professional alumni more engaged at professional and curricular levels.

3. The Department should strengthen mentoring of new tenure-track faculty and lecturers

Comments: PT temporary faculty who teach GE courses are mentored by our GE coordinator in terms of lecture materials, books, and course set up. We have several PT temporary faculty who teach in Geoscience Education course and they used to receive mentoring from now retired faculty member. Prior to about 2013, we had mandatory mentoring described in our Department Personnel Document but we removed that requirement in a recent update.

Changes enacted: We've recently hired Geoscience Ed specialist who will work with and coordinate PT faculty who teach geoscience ed courses.

Changes Planned: Chair will discuss mentoring issues with newest tenure-track hires to come up with some best practices and need for mandatory mentoring. We will discuss these in faculty meeting to decide if we should have

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mandatory advising of TT faculty. As described in my response to the review committee, the Chair will start program of meeting with temporary faculty each semester for mentoring purposes.

4. The committee recommends the creation of concentrations or other recommended course sequences for the BA.

Comments: The BA is in its 4th year and we've recently reviewed potential changes. A major issue with the BA program has been advising and approving electives units. We decided not to create formal concentrations for this major because the intent of the degree was to be very flexible. However, we agree that pathways are good to keep students focused, to help with advising, and to decrease time to graduation.

Changes enacted: The Department has developed a set of informal "pathways" to help with student advising and to direct students through the major depending on their career choices. The pathways are: business, professional registration, environmental sciences, teaching, and paleontology. Each of these pathways has a pre-approved set of electives courses that will be presented to students during mandatory advising. We also removed the advisor-approved "undesignated electives (22 units)" requirement from the BA major. This will allow BA students to use the electives units as part of a minor in another field.

Changes Planned: Continue with BA pathway development and assess elective sequencing through the major.

5. A long-standing problem for the department has been to find ways to manage the thesis requirement of the BS degree in the face of increasing enrollments.

Comments: This issue arises almost every time we have a retreat. In August 2014, we had another retreat to discuss the goals, work loads, and management issues with the required undergraduate thesis. The outcome of that meeting was a near unanimous vote to keep the requirement. We recognize that student research is a hallmark of our department and is a genuine high-impact practice that sets us apart from most other geology departments across CA and other departments in college and university. We also recognize that **faculty must be compensated for the immense amount of work they put into each thesis and independent study project.**

Changes enacted: none. We are keeping the thesis in place.

Changes Planned: None. However, the chair will ensure that every faculty member retains WTU's for supervisory units to the maximum extent allowed by the college and university. The chair will also use the WTUs to incentivize student recruitment for thesis work in order to spread the student load amongst the tenure track faculty.

6. Rather than eliminating high-impact practices from a strong degree program as recommended by the review committee, the department should consider what the "best size" should be for both the BS and BA.

Comments: Our department has about 160 undergraduate majors, nearly double what it was 3-4 years ago. Traditionally the small scale of our department (any geology department) allowed us to have small (<30) labs. Now, we are stretched beyond our limit to seat students in labs and especially in department vehicles for field excursions. This affects how we run courses and strains our limited (and unchanged) resources. But just as importantly it affects the "boutique" nature of our department and ability to stay connected with our alumni and friends. We were told by a past dean to not be afraid to grow – we've grown and now are trying to deal with it.

Changes enacted: Opened more lab sections taught by graduate student TAs and part-time faculty. Caused lectures in major's courses to be disconnected from labs, which is not as pedagogically sound.

Changes Planned: We will survey our alumni every couple years to assess whether they are obtaining jobs. We did this two years ago and found that 88% of the survey takers found geology related jobs in first year post graduation. To evaluate the external demands for professional geologists we will continue this survey with more recent. We will also track our BA Earth Science alums to assess the value of their degree. To handle the growth however, we need additional resources to maintain the quality - Remodel our main "rock" lab in DBH203 to accommodate 30 students (currently only 24) so we can have larger labs. Purchase new equipment (e.g., microscopes) so there are enough to manage the greater number of students. Purchase at least two new vehicles to get students to field for HIP field

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studies – vehicles are perhaps our most critical need (like having pianos in performing arts). Our fleet is too small now and is aging. This will require increased funding. We are designing a new course (Field and research methods for Earth scientists) to take the pressure off one of our core field courses and lessen the demand on vehicles. This course will be offered next year.

7. The Department and the External Review Committee both identify graduate student funding, including fee waivers, as a critical issue for the health of the graduate program.

Comments: As faculty are being encouraged to pursue research efforts more, it is imperative to attract good graduate students. This is particularly important now that we are heavy with new TT faculty who are especially eager to “split the atom.” We currently offer TA packages to a select few graduate students, but ½ to 1/3 of their meager salary goes right back to tuition/fees. We have been successful in obtaining Non-resident Fee Waivers, but students still must pay in-state costs (\$7600/yr for 7+ units) and NRFWs are getting more difficult to acquire. It is astounding to this Chair the low number of NRFWs available. The tuition/fee costs make us very noncompetitive and we often lose the best applicants to other institutions, including other CSU’s.

Changes enacted: None

Changes Planned: Encourage faculty to include tuition in future grants. Makes grants that are already very difficult to obtain more expensive. And this is less sustainable in terms of building a quality graduate program; we need an institutionalized program that rewards graduate TAs, who are excellent teachers and are contributing to the university. Other CSUs are able to do this. We will work with Dean to find solutions to funding our students.