DIVISION OF PHYSICAL SCIENCES DIVERSITY COMMITTEE MEETING

October 18, 2016

ANNOUNCEMENT OF UPCOMING WORKSHOP
The Physical and Life Sciences divisions are planning another success in science workshop to be held at the Hilton Hotel in Santa Barbara (same venue as last year) – the two times under consideration are March 2-4, 2017 (winter quarter week 8) or March 9-11, 2017 (winter quarter week 9). Please let Al Courey know of any major conflicts with either of these times such as:

• A graduate student recruitment event in one of your departments
• A major conference in your field that a large fraction of your faculty will attend

PROPOSED REQUIREMENT FOR A “SELF-STATEMENT ON CONTRIBUTIONS TO DIVERSITY” AS A PART OF THE ACADEMIC PERSONNEL DOSSIER
At the Physical Sciences Diversity Town Hall meeting held in May 2016, it became clear that many students felt that diversity was not valued in faculty hiring and advancement. Partly in response to this, the Physical Sciences division is now considering requiring a self-statement on contributions to diversity as a part of the academic personnel dossier that every faculty member submits when she or he is being considered for advancement. The committee expressed support for this requirement as it would send the strong message that contributions to diversity are valued and would provide a concrete basis for evaluating contributions to diversity as a part of the academic advancement process, something that it now required by a recent change in the academic personnel manual (APM 210-1).

The text of the proposed requirement contains a list of suggestions for the types of items to include in the self-statement including mentoring minority students, recruitment and retention activities, and service on local or national committees that promote diversity. Committee members suggested the following additions to the list.

• Advising or otherwise participating in student-run diversity groups
• Efforts made by a faculty member to increase the inclusiveness of his or her classroom

The committee discussed whether the self-statement should be required or optional. The sentiment expressed was in favor of making it a requirement.

POSSIBLE REFORMS TO PRE-CALCULUS EDUCATION AS A WAY OF REDUCING THE ACHIEVEMENT GAP
Shanna Shaked presented efforts underway to improve precalculus (Math 1) instruction. Shanna’s slides are here. These efforts were inspired by data showing that only 20% of physical science students who are placed into Math 1 end up completing a physical sciences
degree. Since ~30% of Physical Science URM students are placed into Math 1, compared to a Math 1 placement rate for all Physical Science Students of ~10%, the poor retention of Math 1 students in the physical sciences makes a significant contribution to the retention gap. Al and Shanna have met with members of the Math faculty (including Math Chair Bill Duke, Vice Chair for Undergraduate Education Don Blasius, Professor Mark Green, Lecturer PSOE Will Conley, and Lecturer Paige Greene) to discuss how pre-calculus education might be reformed to address this problem. At Mark Green’s suggestion, Shanna organized a Skype Conference with Uri Treisman, a noted expert in math education at the university of Texas. This was attended by Al, Shanna, Will Conley, Don Blasius, Yung-Ya Lin, Connie Jung, and Joe Rudnick. Uri’s major suggestions along with efforts underway to implement them are as follows (more details are available in Shanna’s slides):

- **Revise placement procedures to place more out of precalc based on more than just one placement test**
  Checking Math Diagnostic Test this Fall and planning more rigorous assessment of placement

- **Offer structured support to students in the form of collaborative learning communities**
  (i.e. guided group work).
  Two Math 1 LAs offering office hours this Fall, and collaborative discussions being planned.

- **Use adaptive software to help students identify which skills are still missing and offer support to learn these skills.**
  Pilot implementation planned for Winter

- **Use learning analytics** (i.e. tracking learning and persistence trends across classes) **to hone in on problems and identify solutions**

Members of the committee expressed the idea that math, as it is currently taught to physical science majors at UCLA, is too abstract. There needs to be more emphasis on applications in the physical sciences.

**PHYSICAL SCIENCES COMMUNITY BUILDING EVENTS**
A lot of studies show that one of the best ways to increase persistence especially by minority students is to make them feel a part of a community. Thus, the committee discussed community building events for Physical Sciences freshman and transfers. A possible outline for such an event might be as follows:

- **Introductory remarks in which the Dean lets students know how happy we are to have them and let's them know that it’s OK if they are struggling because we have a bunch of resources available to help them (then providing information about such resources).**

- **One or more of the following types of presentations**
  - Faculty presentations during which faculty not only summarize their research at a level that freshman can appreciate, but also during which they discuss their career paths and obstacles encountered.
— Research presentations by Undergraduate or Graduate students
— Presentations by alumni describing their career trajectories and obstacles to success. It was suggested that we might want to have an alumni panel to answer student’s questions about career opportunities.

• It was suggested that some kind of writing activity (a letter giving advice to a future student?) would be a great way for students to re-enforce what they learn at this event.

We discussed who should be invited. One suggestion was to invite the Physical Sciences students in Math 1 because this would target a large number of URM students. However, the consensus seemed to be in favor of opening it to all, but to particularly reach out to populations of disadvantaged students. We also discussed the best date for such an event. We thought that fall quarter 0 week as well as Undergraduate Research week (May 22-26, 2017) would be good.

DEPARTMENTAL DIVERSITY COMMITTEES AND THEIR ROLE IN ADVISING STUDENTS
It appears from our discussion that only the Department of Chemistry & Biochemistry has a diversity committee. The committee thought that it would be a good idea for all departments to have such a committee. Possible roles for such a committee include

• Developing a code of conduct for faculty, staff, and students
• Coming up with a departmental diversity plan for increasing faculty and student diversity and for making the environment more inclusive. Shanna pointed us to a Berkeley Toolkit that provides useful guidelines on how to develop such a plan.
• Serving as a resource for students in need of advice on issues relating to the climate for diversity