

Program review for physics: there is a meeting on Nov. 14 from 1-2pm, Admin 127. Recommendations for astronomy, which was the first to be done, were distributed. Anyone is welcome to come but Susana is responsible. Astronomy has been done. The committee is mainly academic senators (none are from the division right now!). Status for physics is level 5 (reviewed and moved on to committee). In the spring, only Physics 1D needs to be reviewed (no astro) since it will be 4 units.

SLO's: In good shape, titles added. Sheets were distributed showing alignment of institutional objectives (ILO's) with program (PLO) and course (SLO) objectives. For all courses except phys 11/12, there are 3 SLO's. 1) conceptual, 2) problem solving, and 3) data collection/analysis (lab). For phys 11/2, there's only the conceptual one. The highest correlation is 4, and the lowest is 1. The physics grid is all 4,3, or 2.

Safety: pipe under 101 was repaired, and all sinks are working!

Annual planning: We discussed prioritizing items in the budget. We separated course items from machine shop items. The priority voted on from highest to lowest for course-related items was:

- 1) Document cameras (\$4k for 4)
- 2) Milliken Oil drop demo (1) \$6000
- 3) X-ray diffraction demo (actually microwaves) \$1600
- 4) Laptops or tablets (32) for labs (\$48,000) to upgrade current ones
- 5) 2.2 m tracks (for PS 25): \$2000

Noted: Laptops may come out of STEM grant. If textbook changes for PS25, may not need tracks.

For the machine items the priority was:

- 1) Hand Tools (such as corded and cordless drills, router)
- 2) Band Saw (\$2500)
- 3) Miter Saw (\$750)
- 4) Welding Set (\$2200)

Need for welding set was questioned.

Furniture had been in the plan and should be added as an objective, but budget is from a separate account. Request for wheeled chairs for classroom.

Spring/Summer Scheduling Summer classes have been added: likely 2 physics 2A sessions (1st 6 weeks?), 1 physics 2B session (2nd 6 week session) and 1 8week 1a session. There was some discussion of the best way to add the courses (as 6-week or 8 week).

Night classes and SMC/ECC comparison: Susan was interested in polling night time (or all?) physics classes to assess the student need for them. She may send out a questionnaire and there was some discussion of the pertinent questions to ask. Statistics from her 2A night class: 10 out of 27 students that responded could **not** currently take physics classes during the day if given the option. Also, 10 of 27

students preferred to take classes during the day but were in the night class for scheduling/other reasons. For some faculty, teaching night classes is a hardship, and for others, it is not (they are neutral). Scheduling of math classes is something we should perhaps check out to see how that affects our physics students (most are taking math concurrently).

Susan also presented a comparison of physics classes at SMC and ECC. Some differences: All of the equivalent 1 series courses are 5 units, and the 2a/2b and 3a/3b classes are 4 units. Ours are: 1A,1C, and (now) 1D: 4 units; 1B: 3 units; 2A/2B: 4 units; 3A/3B: 5 units; 11: 3 units; 12: 1 unit. SMC also has another physics class (quantum and modern physics), which is offered once a year, and that one is 3 units.

Also, they offer MANY sections of our equivalent of 11+12 (conceptual physics with lab as part of the course, which is 4 units. 6 of their 19 sections taught this semester are this course. They have 30% fewer night classes as of now than we do. Also, they have classes from 3-6pm which we don't do, and I don't consider that a night course.

Technician demo: Dan showed us the demo in 101 of "Ernesto" the circus bear, who rides a bicycle on a "highwire". The bear rolls back and forth and is stable even as the wire (string) is rotated. Plugging in the power drives the wire in a circular motion. He is holding rods that lower his center of gravity to be below that of the rope, thus is stable. Perry mentioned that he uses this demo to demonstrate a damped, driven simple harmonic oscillator with a phase shift!