Academic Affairs (AA) Committee

Analysis of Engineering Program Responses and Requests for Exception

Late in the day on Friday, February 14, 2014, Chair Guerin forwarded to the ASCSU a spreadsheet distributed by the Academic Affairs division of the Chancellor’s Office titled, “Overview 120 Responses Updated 2-14-14”. This morning (Monday, February 17), AVC Mallon supplied a summary spreadsheet titled, “Engineering Feb17_2014-1”. The latter focuses just on engineering programs exceeding 120/180 units. In preparation for the Academic Affairs Committee’s virtual meeting this week, I examined these spreadsheets closely. Since the first one was distributed to all senators, and since the second one will likely be of interest beyond members of the Academic Affairs Committee, I thought it appropriate to share my analysis with the Senate. I was keenly interested in the two spreadsheets, but I also consulted the “Search CSU Degrees” database and the list of ABET-accredited engineering programs in the CSU (excluding Computer Science programs on that list).

I hasten to add this was no easy task, because the four documents are not consistent with one another. To provide examples, the first spreadsheet says there are 19 CSU campuses with engineering programs, but the “Search CSU Degrees” database (hereinafter referred to as “database”) says there are 20; the second spreadsheet lists 6 engineering programs at Maritime but the database lists 3; the
ABET list says Cal Poly Pomona has 14 accredited programs, while the database says Pomona has 13; and the first spreadsheet indicates some campuses did not submit reports, while the second reflects a different status. With the information available to me, then, there is no way to account for the variances between the two spreadsheets, the database, and the ABET list, so all four are appended to the email distributing this report so as to provide specific details for further inquiry.

I will focus largely on the spreadsheets in my analysis, adding information from the database and the ABET list as appropriate. The analysis below will document my conservative estimate that at least 99 of the approximately 121 engineering programs in the CSU support establishing an exception to Title 5 unit limits, 13 programs have indicated they have or will achieve Title 5 limits, and 9 programs have not signaled their intentions.

Beginning with a summary of the spreadsheet results:

- 19 campuses have engineering programs (the four that do not are Channel Islands, Monterey Bay, San Marcos, and Stanislaus)
- 4 campuses have achieved 120/180 unit caps, or say they will by Fall 2015 (Bakersfield, Humboldt, Long Beach, and San Jose)
- 4 campuses have not submitted reports, so it is unclear if they will seek exceptions (Fresno, Northridge, San Diego, and Sonoma)
- 11 campuses have submitted exception requests (Chico, Dominguez Hills, East Bay, Fullerton, Los Angeles, Maritime, Pomona, Sacramento, San Bernardino, San Francisco, and San Luis Obispo).

Additional scrutiny of these results is in order, beginning first with the 4 campuses listed as achieving (or close to achieving) 120/180:

- Bakersfield could not submit exception requests, because their six non-ABET-accredited programs are already at 180 units. However, on January 30 the Bakersfield Academic Senate passed a resolution endorsing AS-3158-13, because they want “to build programs which can achieve ABET accreditation while adequately addressing the General Education Student Learning Outcomes established in Title 5.”
Humboldt has one engineering program which the spreadsheet indicates has been reduced to 120 units (from 130).

A senator from San Jose reported during our plenary that no exception requests for their 11 programs were allowed to be forwarded from the campus; 3 of the 11 programs do not appear to be ABET-accredited; units before reductions range from 130-135.

Long Beach reports that they plan for 12 of their programs currently exceeding 120 to achieve unit reductions by Fall 2015; 5 of their 13 total programs do not appear to be ABET-accredited; units before reductions range from 120-130.

The total number of programs on campuses reporting they have reached or will achieve 120/180 is 30, according to the spreadsheets and database.

With respect to the 4 campuses that do not appear to have submitted engineering reports:

- In two cases there is evidence indicating the will of the faculty: Northridge College of Engineering faculty unanimously endorsed AS-3158-13, and Fresno College of Engineering faculty strongly endorsed the resolution as well.
- San Diego and Sonoma did not submit formal responses to ASCSU.
- To put this category of campuses into perspective:
  - Northridge has 7 programs; 6 exceed 120; 1 non-ABET-accredited program is at 120; units range from 121-126.
  - Fresno has 6 programs; 5 exceed 120; 1 non-ABET-accredited program is at 120; units range from 120-130.
  - San Diego has 7 programs; all exceed 120, and are ABET-accredited; units range from 128-137.
  - Sonoma has 1 non-ABET-accredited program at 128 units.
- The total number of programs for which reports were not submitted is 21; 19 of those programs exceed 120 units.

Finally, according to the second spreadsheet, the number of programs exceeding 120/180 on the 11 campuses requesting exceptions can be broken down as follows:
• Chico has 5
• Dominguez Hills has 1
• East Bay has 3
• Fullerton has 5
• Los Angeles has 6
• Maritime has 6
• Pomona has 13
• Sacramento has 5
• San Bernardino has 1
• San Francisco has 4
• San Luis Obispo has 22
• A total number of 71 programs on these 11 campuses currently exceed 120/180 units.
• Units totals on these campuses range from 126-138, and 190-205
  o On semester campuses, 14 programs are between 126 and 129 units; 4 are 132-138 and above (excluding Maritime)
  o On quarter campuses, 20 programs are at 198 units; only 2 exceed 198; 22 programs are between 190 and 196 units

So, to summarize, according to the spreadsheets and database, 30 programs on 4 campuses are at 120/180, or will be soon; 19 programs exceeding 120 units on 4 campuses have not submitted reports; 71 programs above 120/180 exist on 11 campuses requesting exceptions.

However, as we now know, 2 campuses at 120/180 would have submitted exception requests if they could have (Bakersfield’s 6 programs, and San Jose’s 11 programs), and 2 campuses not yet reporting support the ASCSU resolution (Northridge, with 6 programs above 120, and Fresno with 5). Adjusting the numbers accordingly then, I believe a conservative estimate is that 99 engineering programs would like to see Title 5 exceptions, 13 programs report they have or plan to achieve 120/180, and the intentions of 9 programs are unknown.
Specific numbers aside, it is clear that the vast majority of programs find unit limits of 120/180 in engineering programs untenable. Therefore, in my estimation the data from the spreadsheet, the CSU degrees database, and the campus endorsements of AS-3158-13 collectively support the conclusion that faculty who have scrutinized engineering as well as general education degree requirements, along with accreditation demands, have determined that higher unit limits for engineering students are not simply appropriate, but necessary.

In sum, to conclude this report, the preponderance of engineering programs seek exceptions to the limits, even in the face of what, on many campuses, has been intense pressure to conform. These exception requests constitute clear evidence that faculty scrutinizing the curriculum believe it is not in the best interest of students or, by extension, the citizenry served by graduates, to limit unit requirements to 120/180 for engineering students.

Respectfully submitted,
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