

Task Force on Enrollment Balance

Final Report
December 22, 2003

1. Executive Summary

In the current academic year the campus is within 710 FTE students of its targeted 4000 FTE enrollment increase to accommodate Tidal Wave II. In recognition of this fact, EVCP Paul Gray set up the Task Force on Enrollment Balance. The Task Force was charged with developing enrollment targets for the various levels of students in the university and an admissions strategy for reaching this goal. The strategy is to comprehend the four principal admit cohorts: entering freshmen, entering juniors (principally community college transfers), entering graduate students with a master's degree goal (primarily in the professional schools) and entering graduate students with a doctor's degree goal. A more detailed background and charge to the Task Force is given in subsequent sections of this report. The Task Force comprised senior members of the administration and of the academic senate. The membership list is also presented in the last section of this report. The Task Force recognized that the factors that govern enrollment decisions for the undergraduate and graduate populations were different and, as a result, formed two subcommittees to examine each of these groups separately. The reports of each of these groups are included in the report below.

Based on these reports, the Task Force reached the general conclusion:

- **Both the current enrollment and the trajectory of this enrollment are in substantial balance and no dramatic change in the current admissions strategy is needed.**

In particular, the Task Force noted that:

- Of the remaining 710 FTE enrollment needed to reach the target enrollment, approximately 250 FTE should be graduate students and 460 should be undergraduates. These numbers, however, may vary by a hundred or somewhat more students either to accommodate changing needs in the individual units or as a result of normal variations resulting from uncertainties in admissions yield and time to degree. Consistent with the current plans, we expect the bulk of the 460 FTE undergraduate growth to take place during Summer Sessions.
- The applicant pools for three of the four cohorts appear to be strong with more than sufficient applicants of "Berkeley quality" to meet the admissions targets. The exception is the undergraduate, junior-level applicant pool where currently there is insufficient strength in applicants to the non-impacted majors to increase admissions of this cohort.
- The Task Force also recommended targeting a 60:40 balance in the upper division - lower division balance when advanced placement credits are ignored, as recommended by the California Master Plan. Since we are currently only slightly below the number of upper division students to reach this balance, the Task Force recommends increasing slightly the number of junior-level admits if and when the strength of this pool increases to make this change appropriate.
- In the event of a mandated reduction in enrollment, The Task Force recommends that the campus strive to meet these reductions without disturbing the current balance between the four cohorts.

2. Background

As the campus approaches its maximum enrollment capacity, the balance between the undergraduate and graduate student populations must be examined. Targets for undergraduate admissions have traditionally been set by the joint Academic Senate –Administration Undergraduate Admissions Coordination Board (Coord Board). In its deliberations, the Coord Board has considered the balance between freshmen admissions and community college transfer admissions, but it has not considered the impact of these choices on the graduate student population. The targets for graduate enrollments have traditionally been set by the Graduate Division, in concert with the Academic Senate Graduate Council, without specific reference to undergraduate admissions or population.

In anticipation of the “cap” on enrollments that will occur when Berkeley’s enrollments grow by about 710 more FTE students, any increase in the number of undergraduate students will have to be balanced by a decrease in the number of graduate students and vice versa. Thus, these enrollment decisions can no longer be made independently of one another. As a result, it seems prudent to form a joint Academic Senate – Administration task force to make recommendations on the appropriate balance between these two cohorts; and, within the undergraduate cohort, to recommend what the balance between the upper and lower division cohorts should be. The Task Force on Enrollment Balance will examine this question and advise the administration on both what this balance should be and the strategy required to achieve it.

3. Charge

The charge to the Task Force on Enrollment Balance is to recommend: 1) an ultimate, steady-state target for the lower division, upper division, and graduate student populations at Berkeley that corresponds to the maximum enrollment envisioned for the campus, and 2) admissions strategies for reaching this goal.

The **population targets** for the individual cohorts should balance the variety of constraints imposed on the campus. These constraints include:

- Accommodation of the “Tidal Wave II” enrollment growth.
- Preservation of the 60:40 balance of upper to lower division students.
- The University’s commitment to increase admissions of transfer students.
- Commitment to regularize Summer Sessions.
- Preservation of the ratio of FTE students to FTE faculty at 18.7.
- Preservation of the level of undergraduate teaching by ladder faculty to the academic year 1999-2000 level, as required by UC Office of the President.
- Provision of sufficient GSIs for teaching the undergraduate student population.
- Maintenance of sufficient graduate students for health of the research enterprise.

The **admissions strategy** should recommend admissions targets, both near term and steady-state, for freshman, community college transfers, and graduate students necessary to reach the recommended targets for each population. In developing a recommended strategy, the Task Force should comprehend admissions and throughput parameters such as demand, yield rates, time to completion, financial aid, graduate fellowships, etc.

Graduate Enrollment

Graduate students now constitute 25.6% of budgeted general campus FTE enrollment. This number includes Summer Sessions where graduate enrollment is smaller as a percentage of total summer enrollments. Consequently, the percentage of graduate enrollment during the academic year (the traditional yardstick) will be higher than 25.6%. If we add in Health sciences enrollments, which are all at the graduate level and the Haas School self supporting programs, the percentage graduate enrollment during the year is nearly 30%. The fact that this is lower than the percentage in many of the institutions to which we traditionally compare ourselves, has led to the perennial question of whether we have too few graduate students, especially too few doctoral students. However there are institutional differences that make such comparisons less meaningful, such as the presence of medical schools or historic institutional choices about the size of professional programs. Harvard, with its decentralized decision making structure for instance has ended up 6600 undergraduates, but with 3700 students in their Law School and Business School together. Berkeley has 23,000 undergraduates and about 1800 students enrolled in graduate professional programs in Law and Business.

The metric that seems most relevant for doctoral programs is the ratio of doctoral students to regular faculty members. In programs where doctoral education is the overwhelmingly predominant mode of graduate education, one would not like this ratio to be too small as it might tend to undermine the vigor, intensity, and coherence of the doctoral program. It should not be too large either as that might indicate that students are not receiving enough individual attention. Of course the optimal number varies substantially by discipline and is affected by the quality of the applicant pool, the availability of graduate student financial support, the availability of space, and the nature of the job market for doctorates in the discipline. It is also a number where comparisons with other institutions are much more meaningful.

The programs in the Colleges of L&S Chemistry, Engineering, and Natural Resources all have substantial undergraduate responsibilities and the overwhelmingly predominant mode of graduate education is the doctoral program. In these colleges the aggregate ratio of doctoral students to faculty is about 4.1 to 1 (about 1160 faculty and a little under 4800 doctoral students). The variation by discipline is substantial and the ratios range from 2 to 1 to nearly 8 to 1.

Comparison with other institutions are limited as good data are hard to come by, but what we have, indicates that we are pretty much in line with comparison institutions. The University Illinois has a ratio of 3.5 to 1 in L&S and Engineering, Michigan is 2.85 to 1 again in L&S and Engineering, and Wisconsin seems to be 4.25 to 1, although the data are a bit incomplete here. Harvard is 5.4 to 1 in L&S while Stanford is 3.7 to 1. The data are incomplete for Princeton but they indicate the ratio is at most 3 to 1 in L&S and Engineering combined--it is 2.4 to 1 for the whole institution. Finally at Caltech, the ratio is 4.3 to 1 for the entire institution.

The Schools of Education and Public Health have minimal engagement at the undergraduate level, but have extensive professional master programs in addition to doctoral programs. The ratio of doctoral students to faculty in these two schools combined is 4.8 to 1 (393 students to 81 faculty), which is slightly higher than in the colleges mentioned above. The other professional Schools and Colleges by their nature have a greater emphasis on graduate professional education, and doctoral programs are consequently much smaller. Overall, in these schools and colleges the ratio of doctoral students to faculty is about 1.4 to 1 (about 325 doctoral students and 235 faculty). All told, the campus has about 5500 doctoral students and 3700 professional or master

students for a grand total of 9200 graduate students, including health sciences and the Haas self-supporting programs. Actually, with the reclassification this year of the all OD students in Optometry to graduate status, we have about 9300 graduate students with 3800 masters or professional degree students.

As part of general enrollment growth, graduate enrollment has grown since 2000. Compared to 2000, the campus has 725 more general campus graduate students and 51 more health sciences graduate students. 536 of these general campus students and 27 of the health sciences are doctoral students; 189 general campus plus 24 health sciences students are professional or masters students. While some programs wish to readjust their graduate enrollment targets, there is no major movement in the direction of increases or decreases in graduate enrollments.

Some programs have a keen interest in expanding their doctoral degree enrollments, particularly in response to the need for more GSIs to relieve impaction in their corresponding undergraduate offerings. However, the Graduate Division currently does not have sufficient funding to provide a stable fellowship base to allow such an expansion.

Although the campus has grown in overall enrollment, and additional faculty FTE have been assigned to the campus, only a fraction of these FTE have been filled. As these faculty positions are filled, additional doctoral students will be needed to maintain proper balance in doctoral students.

Conclusions and Recommendations:

- The number of doctoral students on campus is at about the right level based on the constraints and needs and on the metric of doctoral students per faculty. The number is comparable to that in institutions to which we traditionally compare ourselves.
- The number of professional masters students overall seems about right, although in the coming years some selective cuts and increases in some programs may be called for.
- The campus should reserve at least 250 doctoral students to be allocated over the next seven years as additional faculty members are added from the reserved faculty FTE in order to preserve the current ratio of doctoral students to faculty. Depending on how many of these faculty slots are filled over time, it may be necessary to increase the number of additional doctoral students to as much as 400. Accommodating this many new doctoral students may involve some minor readjustment of enrollment targets within an overall total as the campus moves along its budgetary and enrollment trajectory over the next seven years. Allocation of any additional doctoral students would be contingent upon availability of adequate financial support and programmatic justification.

Undergraduate Enrollment

There are two questions concerning the undergraduate student population:

1. What should the size of this population be when we reach steady state?

In academic year 2003-04 it is estimated that there will be 32,460 FTE students, which is about 710 FTE students less than the target FTE students after the absorption of the Tidal Wave II students. The subcommittee responsible for the graduate enrollment came to the conclusion that of this remaining amount, approximately 250 will be needed as graduate students, leaving 460 for undergraduates. This distribution would marginally increase the current ratio of graduates to undergraduates; to retain the same ratio, there would have to be 177 graduates and 533 undergraduates. The difference between these two cases is probably beyond our skill to predict enrollments. Thus we will assume that the steady state undergraduate enrollment should be $24,610 \text{ FTE} = 24,150$ (the current undergraduate enrollment) + 460.

2. What should be the balance between upper and lower division? To address this we make the following observations:

- The freshman admission applicant pool is large and strong enough that modest increases in freshman admits will not substantially affect the quality of these admits. The majority of these admits will be to L&S undeclared, but others are admitted to specific programs in Engineering, CNR, Chemistry and Environmental Design. The current high “floor” in the comprehensive score for admissions for all majors assures that quality will be preserved campus-wide if increases in total freshman admissions are required.
- Applicants in the transfer and community college admission applicant pool apply to specific majors, some of which are impacted and others are not. Experience has shown that the depth of Berkeley-quality applicants in the non-impacted majors is limited. In contrast, the depth of Berkeley-quality applicants in the impacted majors is great and admissions to these majors is limited by the ability of the impacted departments to handle more students. Thus, current admissions at the junior level are limited either by quality of the applicant pool in the non-impacted majors or by available slots in the impacted majors.
- Currently of the approximately 24,150 FTE undergraduate students, 69% are upper division and 31% are lower division. This is a much higher proportion of upper division than the 60-40 split between upper and lower division envisioned in the California Master Plan for Higher Education. The Master Plan proportion was arrived at by assuming that for every two freshmen matriculated, there would be one junior matriculation. In the 2002-03 academic year, Berkeley matriculated a total of 4,460 freshman students (combined fall and spring) and a total of 2,052 junior students. That is, we are currently matriculating more freshmen in proportion than the Master Plan envisioned. If the total matriculations were to be divided 2:1, freshmen to junior, then this would yield 4340 freshmen and 2170 junior (transfer) matriculations.
- When advanced placement units are stripped away, the current population of students is 59% upper division and 41% lower division. Because advanced placement units were not

part of the educational landscape at the time of the Master Plan, it can be argued that our current population corresponds closely to that envisioned by this plan. However, we are matriculating proportionately more freshmen than the plan. This discrepancy between the matriculation ratio and the upper division - lower division ratio is apparently due to the fact that entering fall semester juniors take on the average 4.4 semesters to graduate which is greater than one-half of the 8.3 semesters that it takes for entering fall semester freshmen. Similar differences appear in the statistics for entering spring semester students.

- The ongoing implementation of programs aimed at improving throughput will, if successful, reduce the upper division population. In this case, it may be desirable to admit more students at the junior level to match both the desired proportions of upper and lower division students and move towards the balance of junior and freshmen matriculated students envisioned by the Master Plan.
- The current undergraduate admissions targets are aimed at producing an undergraduate population of about 800 more than now and this will be about 300 over the anticipated steady-state population stated above. These predictions are predicated upon a series of assumptions concerning yield, persistence and time to completion all of which can be anticipated to change with changes in UC fees, with the implementation of changes to improve throughput, and with changes in the economic conditions in California and the country. As a result, it will be necessary to review the admissions targets on a yearly basis to assess these effects and to change the targets accordingly to comprehend the actual undergraduate population target above.

Conclusions and Recommendations:

It is the recommendation of the Undergraduate Subcommittee that the admission targets be set so that the balance between upper and lower divisions remains at about 60:40 when the advanced placement units are stripped out. As a result of changing conditions both internal and external to the university, this balance may well change in the future to favor admitting proportionally more upper division students. The ability to do this will depend on the strength of the junior admission pool and on the capacity of impacted majors. It is assumed that the strength of the junior admission pool is likely to change slowly with time and thus there will not be a need to adjust the freshman admit targets in any one year based on the strength of the junior admit pool in that year. Instead, it is suggested that a post-facto review of the strength of the junior admission pool be conducted annually to form a basis for setting the freshman and junior admissions targets for the subsequent year.

Members of the Task Force on Enrollment Balance

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