

Conclusion

A faculty size of 2500+ is consistent with the norm for "Top Twenty" institutions.

The Importance of Faculty Critical Mass and Research Productivity

- A review of the 1981 Engineering Program of the University of Colorado at Boulder (UCB) shows that it is comparable to the 1996 UK Engineering Program in faculty size, graduates per year, and federal research funding in core engineering programs.
- During the five-year period 1981-1986 UCB core engineering programs expanded the faculty by approximately one-third from 108 to 145. After ten years, the effect on the programs was both a five fold increase in Ph.D. degrees awarded as well as in federal grant and contract expenditures per full time faculty member.

Report Review

The University of Kentucky model showing the funding necessary to achieve "Top Twenty" status did not designate the source of the funds, or a timetable over which the funds would be generated. A review of key elements of that proposal follows.

Critical Mass, Faculty Size. The University of Kentucky currently has 1796 FTE faculty. Given that 2500+ is the average size of a "Top Twenty" research institution, and 2800+ for a top twenty university with a land-grant/research mission such as UK, we feel that our estimated faculty size of 2440 will achieve depth and breadth of scholarship as well as achieve critical research expenditures, if faculty are carefully recruited over an extended period. Faculty support in the form of graduate assistants and support staff are formula driven.

Start-up Costs. The estimated start-up costs are consistent with start-up costs nationwide. While it is true that start up costs in some research areas are less than the average of \$250,000 per new faculty used in this report, many areas which generate significant extramural research funding require substantially higher start up costs.

Named Chairs and Professorships. A survey of top twenty institutions suggests that 10% of the faculty hold endowed chairs. Given the current number of endowed chairs at the University of Kentucky and the desire to achieve "Top Twenty" status, funding for 180 additional endowed chairs is necessary.