

Year Three Review Action Plan - Mathematics and Statistics

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Part 1 -- Updates and Reflection on Action Items from APR

| Recommendation | DEPARTMENT ACTION | COLLEGE ACTION | PROVOST'S OFFICE ACTION | Action Plan Update |
|--|-------------------------------------|----------------|-------------------------|--|
| <p>1. (a) The creation of an Associate Chair position from the group that does not include the Chair.</p> <p>1. (b) Establishing autonomy for the groups in specific areas as well as formal areas of cooperation. Besides graduate and undergraduate programs, areas that may be considered for autonomy may include hiring, promotion and tenure, and annual reviews. Areas of collaboration would include joint programs, as well as general administration of the department. These are a few examples, and we recognize that many other areas need to be considered. We recommend the creation of a departmental task force to develop a full proposal and a department meeting/retreat to arrive at a consensus.</p> | <input checked="" type="checkbox"/> | | | <p>After lengthy deliberation, the faculty decided not to include an Associate Chair position within the bylaws (due to limited resources for administrative positions). The college allocates 20% of base funding for administrative positions, which currently funds the Graduate Program Directors (GPDs) and the Undergraduate Program Director (UPD). The department felt that the creation of an Associate Chair will drain resources from these onerous jobs. It is the current Chair's view that an Associate Chair, if such a position is to be created, should be funded outside of that 20% formula, with College of Natural and Mathematical Sciences (CNMS) funds allocated from the same source as those of department Chairs'. The issue of autonomy has been addressed by the departmental bylaws, established in 2016 which includes an executive committee to work with the Chair which has a guaranteed equal minimum membership from each of the Math and Stat groups.</p> <p>Timeline: <u>Complete</u></p> |
| <p>2. Communication and transparency in the department should be improved. Action items from departmental faculty meetings should be addressed in a timely manner. The bylaws should be completed and approved as soon as possible.</p> | <input checked="" type="checkbox"/> | | | <p>The bylaws have been completed and have been in effect since Fall 2016. The communication on key departmental issues, including budget and financial matters, have largely been addressed. The current Chair hopes that it will cease to become a serious issue in future due the enactment of the bylaws. Timeline: <u>Complete</u></p> |

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| <p>3. One issue of contention is the allocation of teaching assistantships to the two groups. We recommend that this should not be a fixed proportion of faculty size, rather a function of research areas of active faculty, availability of internships, track record of research groups in graduating students, external funding and placement, as well as the quality and interest of the applicant pool. This process should be overseen jointly by the area program directors with faculty input. The success of the students should be equal in importance to the success of faculty research programs.</p> | <input checked="" type="checkbox"/> | | | <p>The allocation of assistantships is not done as a fixed proportion of faculty size; in fact currently they are allocated in roughly equal numbers in statistics and applied mathematics. Timeline: <u>Complete</u></p> |
| <p>4. Tenure-line faculty should be involved and engaged in the teaching and over-sight of the department's lower level courses.</p> | <input checked="" type="checkbox"/> | | | <p>The department's teaching obligation is substantial; about 36% of the FTE of the entire college, at both the graduate and undergraduate levels. Tenure-line faculty do indeed teach lower level 'service' courses, e.g. in statistics and (multivariate) calculus. The faculty teaching assignments reflect the optimal allocation of scarce resources in order to meet the goal of enhanced course offering and availability of research experience at the upper undergraduate level, in addition to maintaining the quality of the graduate program. It should be noted that recommendations stated in 5 and 6 are incompatible given the scarcity of resources. However, the Undergraduate Program Committee, the department Chair and the Undergraduate Program Director, in close partnership with the newly hired Associate Dean and Quantitative Reasoning Unit Director Dr. Beatrice Lauman, are engaged in active oversight of the freshman and sophomore level courses. Timeline: <u>Complete</u></p> |
| <p>5. Funding of graduate (PhD) teaching assistants from state funds should be limited to a maximum of X semesters. Our recommendation is X=10. This will incentivize students and supervisors to finish the PhD degree in a timely manner.</p> | <input checked="" type="checkbox"/> | | | <p>This is more or less the practice that is in place, with exceptions made on a case-by-case basis when appropriate, in consultation with the Graduate Program Committee (GPC). In addition to timely graduation of our PhD students, we are also mindful of their success and quality which necessitates some flexibility. Timeline: <u>Complete</u></p> |

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| <p>6. There was a proposal from some faculty in the department to establish a teaching post-doc program. This is a model that is used successfully at other universities to boost teaching as well as research programs. Post-docs are typically fresh PhDs who teach a full load (or slightly reduced load) and are active in the research life of the department. They collaborate with research groups. A post-doc program with fixed term (three years, for instance) ensures the vibrancy of the program as well as the ability to spread the benefit among various groups. Efforts should be made to find funding for a small number of post-docs in collaboration with the college through salary savings or other means.</p> | <input checked="" type="checkbox"/> | | | <p>The department is in strong agreement with this. Typically, in Math & Stat departments, department funded post-docs primarily perform research and has a lower teaching load (as stated by the reviewers in the Academic Program Review [APR] report) and no service load. This is sometimes referred to as a teaching post-doc (as in the APR report) because it comes with some (though reduced) teaching duties, in contrast to research post-docs which are typically grant funded and has no teaching duties. Such a departmental post-doc program will have a rejuvenating effect to the research life of the department and will serve to attract top-tier tenure line faculty. However, without additional funding from the University, the department is not in a position to implement this recommendation. Thus, the department requests that such a funding be considered for approval. Timeline: <u>Complete</u></p> |
| <p>7. There are concerns about space. The department should make a concrete proposal, with clear justification, of their space needs and have it ready for any opportunity for discussion with the higher administration.</p> | <input checked="" type="checkbox"/> | | | <p>Thanks to the Dean and the Provost, the space issue has been resolved for now. Timeline: <u>Complete</u></p> |
| <p>8. The department, in collaboration with the college, should consider a system to reward highly productive research active faculty members (that involves something more than pay raises).</p> | <input checked="" type="checkbox"/> | | | <p>Department has successfully pursued various awards at the college, university and system level and will continue to do so. Currently, course release is being accorded to faculty who bring in major external grants earning F&A at the university approved rate of 53%. However, expanding this policy to highly research active faculty (particularly those heavily involved in undergraduate and graduate research) will certainly spur productivity, but will require augmenting the departmental funding for adjuncts. Timeline: <u>Complete</u></p> |

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Part 2 -- Current/Ongoing Action Items for YTR

| Recommendation | DEPARTMENT ACTION | COLLEGE ACTION | PROVOST'S OFFICE ACTION | Action Plan |
|--|-------------------------------------|----------------|-------------------------|--|
| <p>1. The courses to be taken by the graduate students that are in addition to the university requirements should be determined by the dissertation advisor. The practice of compelling students to take regular courses, independent of the relevance to their thesis areas, even after completing all PhD qualifying requirements, should be discontinued.</p> | <input checked="" type="checkbox"/> | | | <p>The GPC is currently involved in undertaking a revision of course requirements in the PhD program in order to address the equity issue in the course requirements for the supported and unsupported students, while maintaining the quality of the graduate programs. It should be noted however - and this has been amply pointed out to the administration - that we fully expect that a literal implementation of the External Reviewers' recommendation would severely and adversely impact enrollment in our graduate programs. Timeline: <u>Fall 2021.</u></p> |
| <p>2. The department should explore ways to enhance the course offerings and availability to the top undergraduate majors and minors. The department should make the mentoring of these students a priority.</p> | <input checked="" type="checkbox"/> | | | <p>We certainly want to enhance course offerings for undergraduate majors and minors. However, the course offerings, particularly at the upper undergraduate level, is a function of available resources (tenure line faculty). The current and upcoming vacant faculty lines will adversely affect this; the department feels that unless these are filled expeditiously, the quality of the program will suffer. A Course and Program Mapping is currently being planned by the UPC in order to streamline the course offering based on demand and resource availability. Timeline: <u>Fall 2022.</u></p> |
| <p>3. Various department initiatives should undergo complete reviews. Initial data that we were given indicate effectiveness of departments undergraduate initiatives, like Quiz Zero and Math Gym. If the initial conclusions are confirmed, the department, in collaboration with the college, should make plans to ensure their sustainability in a cost-effective manner. Impact of the Center for Interdisciplinary Research and Consulting (CIRC) on graduate student education should also be evaluated.</p> | <input checked="" type="checkbox"/> | | | <p>The various departmental initiatives are indeed monitored, as time and resources permit and modified as necessary. These are highlighted in the paragraph titled "Undergraduate Course Restructuring" in the accompanying report. In particular, the Undergraduate Program Committee is currently engaged in course mapping which is scheduled to be completed by the next APR. Timeline: <u>Fall 2022.</u></p> |