### Graduate Council's Program Review Committee Report on: 2014 Academic Program Review for Department of Mathematics and Statistics

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### Graduate Council's Program Review Committee report on: 2014 Academic Program Review: Department of Mathematics and Statistics(original 3.29.16; revised 4.8.16)

The Graduate Council's Program Review Committee (PRC) oversees the periodic review of existing graduate programs and presents the results of external reviews to the Graduate Council. Here we summarize the relevant aspects of the 2014 Academic Program Review (APR) of the Department of Mathematics and Statistics. This Department hosts two graduate programs: Applied Mathematics (MATH; MS & PhD degrees) and Statistics (STAT; MS & PhD degrees).

# In formulating this report, we examined 3 documents prior to the 4.7.16 Graduate Council meeting:

- 1. The APR report by external reviewers S.C. Brenner (LSU) and D. Majumdar (UIC), (dated 11.26.14).
- 2. Dean LaCourse's response to the APR (dated 2.24.15).
- 3. The Department's post-APR Action Plan (dated 11.16.15).

Our summary of these 3 documents includes the following points relevant to MATH and STAT:

- The external reviewers noted that graduate programs were thriving and more than 1/3 of research faculty have externally funded research.
- The external reviewers recommended that MATH and STAT should not be combined into one program. Dean LaCourse concurred with this recommendation.
- The external reviewers recommended that the practice of compelling graduate students to take regular courses, independent of their relevance to their thesis area, even after completing all PhD qualifying requirements, should be eliminated. The Department disagrees with this suggestion, and Dean LaCourse states that further discussion is required.
- The external reviewers recommended a change in the way TA's are allocated between MATH and STAT. The Department does not plan to change this.
- The external reviewers recommended that TA's from state funds should be limited to 10 semesters. The Department plans to do this.
- The external reviewers recommended that the Department should reward highly productive research active faculty. The Department and Dean note rewards such as the Presidential Research award and Undergraduate Research Awards.
- The external reviewers suggest creating initiatives in Mathematical Biology and Biostatistics. The Department notes its combined programs (with UMB's School of Medicine) in these areas.

## We also considered the following information, which was provided at the 4.7.16 Graduate Council meeting:

1. A Graduate Council discussion with representatives from the Department (Dr. R. Rostamian--Chair, Dr. K. Hoffman, and Dr. A. Biswas). This discussion centered the 3<sup>rd</sup> bullet point in the list above: the practice of compelling graduate students to take regular courses, even after entering PhD candidacy.

2. A follow-up discussion on this particular issue by the Graduate Council.

Our summary of this information includes the following points relevant to MATH and STAT:

- The Department representatives explained that the primary motivation for this practice is to broaden the education of the PhD students, thereby increasing job opportunities and career success.
- The Department representatives noted that this practice only applies to full-time Dep't funded students, and not part-time self-funded students (who typically already have jobs).
- The Department representatives noted that the majority of the Dep't faculty members were in favor of this practice.
- The Graduate Council expressed concerns with this practice based on:
  - The perception of different program requirements (course requirements) for fulltime vs. part-time students within the same program.
  - The perception of different program requirements (course requirements) based on the number of semesters spent in the program.
  - A lack of seeing this practice in PhD programs in any other discipline.
  - The recommendation of the two external reviewers to eliminate this practice.
- The Graduate Council is unwilling to endorse this practice without further justification from the Department. Suggested materials that could help with this justification include:
  - A survey of the use of this practice in analogous MATH/STAT-type grad programs at peer-group (or aspirational-group) universities.
  - A survey of current grad student satisfaction with this practice.
  - A survey of recent graduates on the utility of this practice in their job-placement and/or career successes.

**Summary statement:** The Graduate Council's PRC notes that the external review appears to have been conducted thoroughly and fairly within the context of the MATH and STAT graduate programs. The Department has accepted or adequately addressed most of the relevant suggestions by the external reviewers. The Department has rejected the external reviewers' suggestion to eliminate the practice of "compelling advanced students to continue taking regular courses". The Graduate Council is unwilling to endorse this decision without further justification from the Department, and has provided suggestions for additional information that could help with that justification.

### Graduate Council's Program Review Committee report on: 2014 Academic Program Review: Department of Mathematics and Statistics (5.2.19 update)

The Math/Stat Department Chair and GPD returned to the Graduate Council in May 2017 with a report that responded to the requests from the Graduate Council.

• In response to questions raised about the department's requirements for full-time students versus requirements for part-time students Dr. Rostamian explained that the Math/Stat Department's position is not unique, and that Johns Hopkins has a similar policy that is more stringent but does make exceptions if it is the student's last semester. The Math/Stat Department does offer exceptions on a case by case review. It was explained that part-time students are exempt because the department considers their relevant work experience. In addition, the advisor and committee evaluate the part-time student's experience to determine if they need to take courses. The department is very firm on their position but is willing to add language to their student handbook which explains the possibility of being granted an exception.

The Council agreed that the department should revise their handbook, submit it to the General Counsel, and then come back to the Graduate Council.

The Math/Stat Department Chair and GPD attended the May 2018 meeting to discuss the revisions made to their Graduate Handbook to clarify the course requirements, procedures for requesting a waiver, and process for reviewing the job responsibilities of part-time students to determine if there are additional courses that the advisor and committee will recommend for them to take. After *extensive* discussion the Graduate Council did not approve the APR report. Discussion continued throughout the 2018-19 academic year resulting in the following statement from the UMB members of the Graduate Council:

#### UMB's Statement on Math/Stat Program Review

UMB voted against accepting the program review, based on the opinion that the Math/Stat program has not fully addressed the concern raised by the external program committee.

Math/Stat Graduate Assistants (GAs) must enroll in a course each semester they are a GA for the duration of their enrollment at UMBC.

Based on the policy that Math/Stat Graduate Assistants (GAs) must enroll in a course each semester they are a GA for the duration of their enrollment at UMBC, the following key points were raised:

• All students in the same program should take a similar curriculum and number of credits and be held to the same standard. A clear set of core requirements and a set number of elective courses should be explicitly delineated for completion of the degree program. However, under the current model, Math/Stat GAs could take 30% or more credits than non-GA doctoral students in the same program.

The unintended consequences of this arrangement for additional credit hours are that:

- GAs often end up taking courses well outside their thesis focus simply to fulfill this requirement. From the perspective of current students, these classes serve an ambiguous role in their education.
- Current students note the additional workload detracts from their ability to focus on other duties such as proposal defense and writing manuscripts.
- Enrolling in additional coursework costs GAs additional student fees. Overall, the fees are significant considering the level of GA stipend.
- Under the current model, students with outside employment are assumed to be competent and continuous course enrollment requirements are waived. Unless GAs are demonstrably less competent, this assumption raises questions of equity.
- Across graduate programs, most coursework should be completed at the time of comprehensive/qualifying/candidacy exams. Additional coursework may be recommended by the committee to fill gaps in knowledge for the dissertation research project.

#### Summary

**In Summary**: The Graduate Council reiterates that the original program review was conducted properly and thoroughly. The Math/Stat Department has been responsive to requests for additional information. The Graduate Council acknowledges that the faculty in the Math/Stat Department has authority over the program requirements and GA course registration policies, provided that they are within the guidelines of the University of Maryland Graduate School, Baltimore. However, the Graduate Council strongly encourages the Department to reconsider their decision to reject the recommendation of the External Reviewers that "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."