SETON HALL UNIVERSITY
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Memorandum

To: Faculty Senate
Seton Hall University

From: Karen E. Boroff, Ph.D. KEB
Interim Provost and Executive Vice President

Re: Approval of Major in Financial Mathematics
(2019–FS–11)

Date: August 12, 2019

The Office of the Provost is in receipt on the Faculty Senate's approval of the major in Financial Mathematics (FM). This new major was approved by the Senate at its May 10, 2019 meeting.

I have reviewed the various materials that were sent along with this approval. These documents include information regarding the pathway through the curriculum, which compares this major to both the traditional mathematics major and the mathematical finance major in the Stillman School of Business. The main goal, stated by the chair and incorporated into the department objectives, is:

> "Knowledge and understanding of financial/business content including interest theory, bonds, and the money market as well as an understanding of financial engineering, including portfolio management, hedging strategy, and risk management."

It is interesting to note that this major could potentially lead someone to take the first two actuarial examinations, and passage of this exam for those taking them will serve as an assessment of that aspect of the major. There is also a potential joint program with Stevens Institute for the MS in Financial Engineering. In addition, the department has provided future market projections from EAB for the need for majors with the focus on FM. In all, these are very attractive options to offer to our undergraduates. It may also provide some additional interest in our graduate programs in data and business analytics. Acceptances into graduate programs and/or job placements after graduation will be part of the assessment plan. It appears that there has already been a student in the department who did all the courses required for this major and was accepted into a financial engineering graduate program elsewhere.

Perhaps what I appreciate most in this proposal is that it represents a collaborative effort between the College of Arts and Sciences and the Stillman School of Business. It is endorsed by both deans, as well as by the Library in terms of their holdings in this field. It will use existing faculty and courses in both the Finance and the Mathematics and Computer Science departments. Additional resources, if any, seem to be in marketing the major.

In looking at the major, there was one question that arose during the review and it frames what should take place in spring 2023. In creating this major, effectively a track, there are always questions regarding the impact on the existing program. Does the proposed track add additional majors or does it just redistribute the potential majors into the different tracks? The answer to this question is important, particularly in situations where the different tracks require new courses to be developed. The chair indicates this is unlikely to occur here because the tracks use mostly existing courses. There is an argument that the traditional mathematics major will continue to attract secondary education students who plan on math as their second major as well as other students who are seeking to get an advanced degree in mathematics. It is expected that this new major will appeal to students looking for a program which develops more technical expertise in finance underpinned by mathematical theory.

Consistent with Provost's approach to other new programs, in AY 2023 there will be a review of the mathematics major and the financial mathematics major to determine whether there is any need for revision or sunsetting. At that point, it is expected that the traditional mathematics majors will continue to number between 10 -12 per year and that the financial mathematics majors should number 10 students per year.

With this understanding, I approve the new major in Financial Mathematics.