Approved by the Board of Trustees

July 22, 2021

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Board Meeting

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ESTABLISH THE MASTER OF SCIENCE IN PREDICTIVE ANALYTICS AND RISK MANAGEMENT, COLLEGE OF LIBERAL ARTS AND SCIENCES AND THE GRADUATE COLLEGE, URBANA

**Action:** Establish the Master of Science in Predictive Analytics and Risk

Management, College of Liberal Arts and Sciences and the Graduate College

**Funding:** Start-up funding for the initial year will be covered by support from a campus grant. Tuition revenue generated by the program will then be used to hire faculty as needed to cover instruction in the required courses.

The Chancellor, University of Illinois Urbana-Champaign, and Vice President, University of Illinois System with the advice of the Urbana-Champaign Senate recommends approval of a proposal from the College of Liberal Arts and Sciences and the Graduate College to establish the Master of Science in Predictive Analytics and Risk Management (M.S. in PARM).

The M.S. in PARM will be housed in the Department of Mathematics with additional courses for the program being offered by the Department of Statistics, also in the College of Liberal Arts and Sciences, and by the Department of Finance in the Gies College of Business. Companion report items seek establishment of two concentrations within the M.S. in PARM, one in Financial and Insurance Analytics, the other in Enterprise Risk Management, thereby allowing students to pursue a concentrated area of study best suited to their interests. The program will provide rigorous, modern, and foundational education, producing graduates who have a deep and balanced knowledge of data science, actuarial science, and finance. The program is expected to apply for accreditation from the Professional Risk Managers’ International Association (PRIMA), which sets international standards for graduate-level education in risk management. If successful, students graduating from the proposed M.S. in PARM would be waived for the Professional Risk Management Design exams I and II. Graduates will be on the fast track to become credentialed, giving them comparative advantages in the job market.

As disruptive technologies emerge such as big data, artificial intelligence, predictive analytics, and autonomous vehicles, it has become clear that it is no longer sufficient for financial and insurance industries to rely on groups of professionals with separate skill sets. Rather, the industry desires employees who understand business context, have a broad view of enterprise risk management, and possess deep knowledge of analytics to bring forth creative solutions based on insights gained from data analysis. Traditional masters programs are often either focused solely on either business or primarily on technical preparation. The proposed M.S. in PARM aims to fill this important gap in the academic training, providing an interdisciplinary platform that utilizes educational resources across the university to offer students an experience best suited for career development in the financial service and insurance industries.

Changes in class sizes resulting from enrollment of students in the program in elective courses can be absorbed into the current system. However, several new sections will be needed for many of the required courses, likely one section across ten required courses. This implies that roughly one new faculty member, whether specialized or tenure stream, will be needed in each of the three departments participating in this program (Statistics, Mathematics, and Finance). An additional ten teaching assistants with 50 percent appointments will be needed for these courses. The expenses for the new faculty member and additional teaching assistants in the program will be covered in the first year by support for a campus grant. After the first year, tuition revenue generated by the program will be put toward the costs associated with any additional teaching needed and to make more courses available online, to cover costs of industry speakers coming to campus, and providing individualized career coaching services for students in the program. No new or additional facilities, significant improvements to existing facilities, or additional resources from the University Library are needed.

The Board action recommended in this item complies in all material respects with applicable State and federal laws, University of Illinois *Statutes*, *The General Rules Concerning University Organization and Procedure*, and Board of Trustees policies and directives.

The Interim Executive Vice President and Vice President for Academic Affairs concurs with this recommendation. The University Senates Conference has indicated that no further Senate jurisdiction is involved.

The President of the University recommends approval. The action is subject to further review by the Illinois Board of Higher Education.