**To: Dr. Joseph Riotto, University Senate President**

**From:    The University Senate Graduate Studies Committee (GSC):**

**Dr. Chris Shamburg, Chairperson**

**Dr. Helen Friedland**

**Dr. Aaron Ho**

**Dr. Jayadhurganandh Jayaraman**

**Dr. Freda Robbins**

**Dr. Carrie Robinson**

**Mr. Kris Rivero, Student Rep.**

**RE: April 2017 Senate Report from the Graduate Studies Committee April 10, 2017**

**DATE: April 3, 2017**

**At the April 3rd meeting of the Graduate Studies Committee, we approved the following 10 courses.**

**New Courses Approvals**

* Introduction to Business Analytics and Data Science
* Statistical and Mathematical Methods for Data Science
* Programming for Data Science
* Applied Regression and Time Series Analysis
* Introduction to Machine Learning
* Experimental Design
* Data Visualization and Communication
* Market Risk and Liquidity Risk Management
* Counterparty Credit Risk Management
* Operational Risk Management

**Abbreviated Course Title:** Introduction to Data Science

**Full Course Title:** Introduction to Business Analytics and Data Science

**Credits:** 3.0

**Course Level:** 600-level

**Catalog Description:** This course will provide students with an overview of the field of data science and business analytics. Students will get a high level understanding of data acquisition, data manipulation, data storage, data analysis and data visualization. Students will also be introduced to machine learning and predictive analytics.

**Enrollment and Scheduling:** This course will be offered once per year. The maximum class size should be 25.

**Abbreviated Course Title:** Math for Data Science

**Full Course Title:** Statistical and Mathematical Methods for Data Science

**Credits:** 3.0

**Course Level:** 600-level

**Catalog Description:** This course will introduce students to the statistical and mathematical methods needed in the practice of data analytics. Students will learn the basics of statistics, probability, linear algebra, calculus and optimization techniques relevant to data analytics.

**Enrollment and Scheduling:** This course will be offered once per year. The maximum class size should be 25.

**Abbreviated Course Title:** Programming for Data Science

**Full Course Title:** Programming for Data Science

**Credits:** 3.0

**Course Level:** 600-level

**Catalog Description:** In this course students will be introduced to the R programming language and the Python programming language, which are the two widely used programming languages in the field of data science. Students will get a good understanding of using R and Python for statistical modelling and machine learning.

**Enrollment and Scheduling:** This course will be offered once per year. The maximum class size should be 25.

**Abbreviated Course Title:** Regression Analysis

**Full Course Title:** Applied Regression and Time Series Analysis

**Credits:** 3.0

**Course Level:** 600-level

**Catalog Description:** This course will provide students with a thorough understanding of regression analysis. It covers both the theory and application of regression analysis. It focuses on maximum likelihood and time series techniques. As well, this course also covers the interpretation of regression results and best practices for regression analysis.

**Enrollment and Scheduling:** This course will be offered once per year. The maximum class size should be 25.

**Abbreviated Course Title:** Intro to Machine Learning

**Full Course Title:** Introduction to Machine Learning

**Credits:** 3.0

**Course Level:** 600-level

**Catalog Description:** This course will provide students with a thorough understanding of machine learning concepts. Students will learn the common machine learning algorithms and implement them in R or Python. Students will learn how to apply machine learning algorithms to detect patterns in the data and to predict outcomes.

**Enrollment and Scheduling:** This course will be offered once per year. The maximum class size should be 25.

**Abbreviated Course Title:** Experimental Design

**Full Course Title:** Experimental Design

**Credits:** 3.0

**Course Level: 600-level**

**Catalog Description:** This course will provide students with a thorough understanding of Experimental design and help students develop the skills necessary to effectively design and analyze experiments. Common techniques used in Experimental Design such as Fixed Effects model, Random Effects model, Mixture experiment, Factorial Design, and Latin Square will be discussed.

**Enrollment and Scheduling:** This course will be offered once per year. The maximum class size should be 25.

**Abbreviated Course Title:** Data Visualization

**Full Course Title:** Data Visualization and Communication

**Credits:** 3.0

**Course Level:** 600 Level

**Catalog Description:** This course will provide students with the techniques and state of the art practices in data visualization and communication. The course will also explore a wide range of techniques from simple descriptive charts and maps to multidimensional analysis using dashboards, helping students develop creative visualizations to communicate data analysis.

**Enrollment and Scheduling:** This course will be offered once per year. The maximum class size should be 25.

**Abbreviated Course Title:** Market Risk Management

**Full Course Title:** Market Risk and Liquidity Risk Management

**Credits:** 3.0

**Course Level:** 700-level

**Catalog Description:** This course will provide students with a thorough understanding of market risk and liquidity risk management concepts. Common techniques used in market risk management such as Value at Risk will be discussed in depth. Students will be exposed to liquidity risk management techniques such as Liquidity adjusted Value at Risk.

**Enrollment and Scheduling:** This course will be offered once per year. The maximum class size should be 25.

**Abbreviated Course Title:** Credit Risk Management

**Full Course Title:** Counterparty Credit Risk Management

**Credits:** 3.0

**Course Level:** 700-level

**Catalog Description:** In this course students will get a thorough understanding of credit risk management concepts. Techniques such as Potential Future Exposure, Credit Value at Risk etc. will be discussed. Using the Bloomberg terminal for risk management purposes will also be emphasized.

**Enrollment and Scheduling:** This course will be offered once per year. The maximum class size should be 25.

**Abbreviated Course Title:** Operational Risk Management

**Full Course Title:** Operational Risk Management

**Credits:** 3.0

**Course Level:** 700-level

**Catalog Description:** This course covers topics related to operational risk and its management. The topics include identification of operational risk, assessment of the size of operational risk, monitoring and controlling of operational risk, and best practices in operational risk management. This course will cover both qualitative and quantitative analyses of operational risk.

**Enrollment and Scheduling:** This course will be offered once per year. The maximum class size should be 25.