MS in Applied Statistics and Decision Making. (**previously approved in concept** at the October 2011 Joint Council.) The proposal has been reviewed now by external evaluators and has been recommended for submission to the NYSED for registration. Incremental faculty resources required for the program are minimal and likely to be simply re-deployment of existing faculty resources. Faculty to teach on the program are to be drawn from: Robert Wharton, Chaitra Najaraman, Alex Markle.
The proposal is for Joint Council to approve the program so that it may be submitted to NYSED for registration. A copy of the proposed program is copied below for your convenience.

MS in Applied Statistics and Decision Making

Target Students:

Recent graduates with a BA or BS in a quantitative discipline such as mathematics, statistics, science, engineering or economics. Also older students interested in repositioning their careers.

Enrollment Goals:

Domestics Students: 10
International students: 25
Target regions: China (20), India (3), Turkey (2)

Why would a student enroll? What are we attempting to deliver?

For the domestic student with a baccalaureate degree in a quantitative discipline, this program will act acquire specific saleable skills. It will also act as abridge to the business world teaching the student how to make a contribution in such fields as Finance, Marketing and Healthcare. This degree would seek to orient the student to opportunities in the market economy or to opportunities for further study.

The Learning Objectives are:

1. To educate the student in the theory and applications of Statistics and decision making.
   Assessment: Standard classroom measures – competency examinations
2. To induce the student to integrate the skills they have learned and apply them to real business problems.
   Assessment: The student will write a paper under faculty supervision describing the analysis of a Business problem using real data.
3. To give the student an in depth understanding of the use of statistics and decision making within a specific business discipline such as Finance, Marketing or Healthcare.
   Assessment: The student will be required to successfully complete a course involving the application of statistics and decision making within this specific business discipline.

The routes a student could follow in conjunction with study for the MSASDM are as follows:

Route 1: MSASDM → Full time employment, applying Statistics in Finance, Health Care, Marketing or Government
Route 2: MSASDM → Extended internship (at least one year) or full-time employment (more than one year) → Fordham MBA
Route 3: MSASDM → MS in xx at Fordham → Full-time employment in the field designated by the MS in xx
Route 4: MSASDM → MSQF
Route 5: MSASDM → Ph.D. in Statistics or a related discipline

The Program
30 credit hours earned from August through May. The program consists of one cohort of 35 students.
August Program
3 weeks
Pre-requisites for those requiring: (zero credits)
Business English for International students (if needed) – 1.5 hrs per day, 5 days a week.
Mathematics for Quantitative Finance* (QF 8904)

Fall Term: 15 credits

Statistical Theory I
Statistical Methods and Computation I
Decision Theory
Statistical Elective
Statistical Elective

Spring Term: 15 credits

Statistical Theory II (To include Linear Models)
Applied regression Analysis*(DGGB7840)
Statistical Elective
Statistical Elective
Statistical Elective

Statistical Electives

Design of experiments* (PSGE7210) **OR** Experimental Design*(PSYC7965)
Statistical Process Control* (MGGB7605)
Time Series and Forecasting Models* (DGGB 7850)
Statistical Methods and Computation II
Design of Statistical Studies
Sampling Theory and Survey Design
Bayesian Statistics

Stochastic Processes
Qualitative Decision Making
Quantitative Methods in Decision Making* (PSGE6215)
Data Mining for Business* (ISGB new)
Business Analytics for Managers*(ISGB7975)
Multivariate Statistics* (PSGE7213)
Marketing Analytics* (MKGB8701)
Data Driven Marketing Decision-Making*(MK7799)
Risk Management* (QF 8935)
Financial Modeling* (FN749X)
Credit Risk Management*(QF8935)
Simulation Applications*(QF8925)
Financial Econometrics*(ECON6950)
MacroEconomics*(ECON6020)
Data Mining*(CISC6930) **OR** Algorithms and Data Analysis*(CISC 6950)
Computer Programming C++*(CISC5300) **OR** Financial Programming*(CICS 5350)
Nonparametric Statistics*(PSYC7820)
Categorical Data Analysis*(PSYC7835)

Internship in Statistics

(*) indicates course already exist

EMPLOYMENT CLUSTERS

FINANCE
Time Series and Forecasting Models* (DGGB 7850)
Risk Management* (QF 8935)
Credit Risk Management*(QF8935)
Simulation Applications*(QF8925)
Financial Modeling* (FN749X)
Business Analytics for Managers*(ISGB7975)
Financial Econometrics*(ECON6950)
Multivariate Statistics* (PSGE7213)
Statistical Methods and Computation II
Bayesian Statistics
Stochastic Processes

INDUSTRIAL
Design of experiments* (PSGE7210) **OR** Experimental Design*(PSYC7965)
Statistical Process Control* (MGGB7605)
Time Series and Forecasting Models* (DGGB 7850)
Enumerative Statistics
Sampling Theory
Bayesian Statistics

Multivariate Statistics* (PSGE7213)
Data Mining*(CISC6930) **OR** Algorithms and Data Analysis*(CISC 6950)
Nonparametric Statistics*(PSYC7820)
Categorical Data Analysis*(PSCY7835

MARKETING
Design of experiments* (PSGE7210)
Time Series and Forecasting Models* (DGGB 7850)
Sampling Theory
Bayesian Statistics
Data Mining for Business*(ISGB new)
Multivariate Statistics* (PSGE7213)
Marketing Analytics*(MKGB8701)
Data Driven Marketing Decision-Making*(MK7799)
Nonparametric Statistics*(PSYC7820)
Categorical Data Analysis*(PSCY7835)

GOVERNMENT/POLICY
Time Series and Forecasting Models* (DGGB 7850)
Bayesian Statistics
Qualitative Decision Making
Quantitative Methods in Decision Making* (PSGE6215)
Data Mining for Business*(ISGB new)
Business Analytics for Managers*(ISGB7975)
Qualitative Decision Making
Quantitative Methods in Decision Making* (PSGE6215)
Financial Econometrics*(ECON6950)
MacroEconomics*(ECON6020)

Ph.D. PROGRAM
Statistical Methods and Computation II
Stochastic Processes
Multivariate Statistics* (PSGE7213
Design of experiments* (PSGE7210) **OR** Experimental Design*(PSYC7965)
Time Series and Forecasting Models* (DGGB 7850)
Bayesian Statistics
Nonparametric Statistics*(PSYC7820)
Computer Programming C++*(CISC5300) **OR** Financial Programming*(CICS 5350)