Review of Proposed New Program

**MS Program: Computational Finance**
A joint program between SCB and COS

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Dean, COS
Review of Proposed New Program

**MS Program: Computational Finance**

**Definition**
- The use of mathematics and computer tools to perform financial calculations.

**Market Demand**
- Evidence of robust demand for individuals who can solve financial business problems using quantitative tools. CareerBuilder and LinkedIn list hundreds of opportunities.
- Competition Realizes the Market Potential.
  - Ohio St. hiring 50-60 faculty in the *data sciences* area including Business Intelligence, business school key entity behind push.
  - CUNY-Baruch 515 applications for Fall 2013 entry, 37 admitted, 27 enrolled. Average GMAT for admitted students 95th percentile. The average GMAT score for application pool, 80th percentile.
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MS Program: Computational Finance

Graduate Council Discussion

- Initial Concerns
  - How will a minimum credit count program be perceived?
  - Program was front loaded with credits.
  - No electives.
  - Proposal needed to be strengthened.

- Modifications
  - Credit count increased to 36 SCH.
  - Courses spread out.
  - Two electives added.
  - Stronger proposal.
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MS Program: Computational Finance

Proposed Program

• Students
  • 15 Initially, ramping up to 25.

• Resources
  • New Faculty: 1 SCOB, ½ COS
  • Bloomberg Terminal
  • No additional resources requested

• Course Utilization
  • SCB
  • COS
  • KGCOE
  • GCCIS
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MS Program: Computational Finance (36 SCH)

• Fall 1:
  – SCB-FINC-671 Survey of Finance
  – SCB-ACCT-603 Accounting for Decision Makers
  – COS-MATH-735 Mathematics for Finance I
  – Analytics Course 1 (from analytics pool)

• Spring 1:
  – COS-MATH-736 Mathematics for Finance II
  – SCB-FINC-772 Equity Analysis
  – Analytics Course 2 (from analytics pool)
  – Elective 1 (from electives pool)

• Summer 1:
  – SCB-FINC-790 Computational Finance Field Experience

• Fall 2:
  – SCB-FINC-773 Debt Analysis
  – SCB-FINC-774 Advanced Derivatives
  – Elective 2 (from electives pool)
  – Comprehensive Exam

Analytics Pool
KGCOE-CQAS 611 Statistical Software
KGCOE-CQAS 762 SAS Database programming
SCB-MGIS 620 Business Intelligence
GCCIS-CSCI 620 Introduction to Big Data
GCCIS-CSCI 720 Big Data Analytics

Electives Pool
KGCOE-CQAS 773 Time Series Analysis & Forecasting
KGCOE-CQAS 756 Multivariate Analysis
GCCIS-CSCI-654 Foundations of Parallel Computing
GCCIS-CSCI-721 Data Cleaning and Preparation
COS-MATH-605 Stochastic Processes
COS-MATH-712 Numerical Methods For Partial Diff Eq
COS-MATH-741 Partial Differential Equations I
COS-MATH-742 Partial Differential Equations II
COS-MATH-711 Advan. Methods In Scientific Computing
COS-MATH-601 Methods Of Applied Mathematics
SCB-ACCT-704 Corporate Financial Reporting I
SCB-ACCT-704 Corporate Financial Reporting II
SCB-MGIS-760 Integrated Business Systems
# Review of Proposed New Program

## MS Program: Computational Finance

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<tr>
<th>APB Characteristic</th>
<th>Program Potential</th>
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<tr>
<td>Scholarship, Research and Creativity</td>
<td>Opens new research for finance and related faculty; opens possibility of joint research between finance, math, and other (computer science, applied statistics) faculty on topics such as financial data mining.</td>
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<tr>
<td>Innovative Teaching and Learning</td>
<td>Program is distinct even within the genre of quantitative finance programs. It will use cutting edge pedagogy from at least two and possibly four colleges.</td>
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<td>Experiential Learning</td>
<td>All courses contain significant experiential components. In particular, FINC-790 provides a real-world project/consulting experience.</td>
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<td>International and Global Education</td>
<td>National borders are porous from a financial standpoint, so “international” components are natural in the program. Students also exposed to global regulations.</td>
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<td>Synergy and Interdisciplinarity</td>
<td>Program is collaborative by design.</td>
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<tr>
<td>Inclusive Excellence</td>
<td>Problems from diverse settings (across industries, countries, business functions) will be tacked in the curriculum.</td>
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**MS Program: Computational Finance**

**Graduate Council Decision**

- Graduate Council Vote in Favor of Approval
  - Approve: 14
  - Not Approve: 0
  - Abstain: 0