December 8, 2015

MEMORANDUM

TO: Alexander J. Triantis  
    Dean, Robert H. Smith School of Business

FROM: Elizabeth Beise
      Associate Provost for Academic Planning and Programs

SUBJECT: Proposal to Modify the Master of Finance (PCC Log No. 15017)

At its meeting on November 6, 2015, the Senate Committee on Programs, Curricula and Courses approved the proposal to modify the Master of Finance. A copy of the proposal is attached.

The change is effective Spring 2016. Please ensure that the change is fully described in the Graduate Catalog and in all relevant descriptive materials.

MDC/
Enclosure

cc: Andrew Harris, Chair, Senate PCC Committee
    Barbara Gill, Office of Enrollment Management
    Reka Montfort, University Senate
    Erin Taylor, Division of Information Technology
    Pam Phillips, Institutional Research, Planning & Assessment
    Anne Turkos, University Archives
    Linda Yokoi, Office of the Registrar
    Alex Chen, Graduate School
    Michael Marcellino, Robert H. Smith School of Business
The University of Maryland, College Park
Program/Curriculum/Unit Proposal

• Please email the rest of the proposal as an MSWord attachment to pcc-submissions@umd.edu.

• Please submit the signed form to the Office of the Associate Provost for Academic Planning and Programs, 1119 Main Administration Building, Campus.

College/School:
Please also add College/School Unit Code-First 8 digits:
Unit Codes can be found at: https://hyperion.umd.edu/reports/units.htm

Department/Program:
Please also add Department/Program Unit Code-Last 7 digits:

Type of Action (choose one):
✓ Curriculum change (including informal specializations) □ New academic degree/award program
□ Curriculum change for an LEP Program □ New Professional Studies award iteration
□ Renaming of program or formal Area of Concentration □ New Minor
□ Addition/deletion of formal Area of Concentration □ Request to create an online version of an existing program
□ Suspend/delete program Italic indicates that the proposed program action must be presented to the full University Senate for consideration.

Summary of Proposed Action:
We are seeking to modify our required set of courses by dropping the requirement that students take Financial Accounting. Recognizing that most of our students enter the program with a business education background, repeating the content of this course is unnecessary. By eliminating this required course, we will be able to re-sequence the core so that students will be able to start working on their concentrations more quickly and spend less time repeating content that they have already covered.

In addition, students are looking for greater guidance on how their courses map to various career opportunities within finance. We are looking to create informal areas of concentration within certain finance functions and then create a sequencing of those courses that best allows courses to build upon each other. These tracks will help students identify ways of combining finance electives to prepare for different careers.

Department/Unit Contact Person for Proposal: Michael Faulkender

Approval Signatures - Please print name, sign, and date. Use additional lines for multi-unit programs.

1. Department Committee Chair
   
2. Department Chair
   
3. College/School PCC Chair
   
4. Dean
   
5. Dean of the Graduate School (if required)
   
6. Chair, Senate PCC
   
7. University Senate Chair (if required)
   
8. Senior Vice President and Provost
I. ABSTRACT

The Master of Finance (MFin) degree program at the Robert H Smith School of Business offers students a rigorous understanding of, and the ability to apply, core finance principles. Students who complete the MFin degree possess the knowledge and skills necessary to address the challenges confronting financial decision makers and financial market participants.

Many of our students enter the program with a business education background. We are seeking to modify our required set of courses by dropping the requirement that students take Financial Accounting. Recognizing the experience most of the students enter with, repeating the content of this course is unnecessary for most of them. By eliminating this required course, we will be able to re-sequence the core so that students will be able to start working on their concentrations more quickly and spend less time repeating content that they have already covered.

In addition, students are looking for greater guidance on how their courses map to various career opportunities within finance. We are looking to create informal areas of concentration within certain finance functions and then create a sequencing of those courses that best allows courses to build upon each other. These tracks will help students identify ways of combining finance electives to prepare for different careers. These informal specializations, which reflect domains of finance expertise, serve as pathways through the available elective courses. Students will not be required to select a particular concentration but they will serve to guide students interested in particular career paths within finance.

The overall goals of these changes is to best prepare students for careers in finance that take into account the experience they have before joining the program and development of greater depth within particular concentrations. Specifically, a summary of changes to the required curriculum can be found below, in Table 1:

<table>
<thead>
<tr>
<th>Current Core Courses</th>
<th>Proposed Core Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSI 610: Financial Accounting (2 credits)</td>
<td>BUSI 640: Financial Management (2 credits)</td>
</tr>
<tr>
<td>BUSI 640: Financial Management (2 credits)</td>
<td>BUFN 740: Capital Markets (2 credits)</td>
</tr>
<tr>
<td>BUFN 750: Capital Markets (2 credits)</td>
<td>BUFN 750: Valuation in Corporate Finance (2 credits)</td>
</tr>
<tr>
<td>BUFN 750: Valuation in Corporate Finance (2 credits)</td>
<td>BUFN 758: Financial Econometrics (4 credits)</td>
</tr>
<tr>
<td>BUFN 758: Financial Econometrics (4 credits)</td>
<td>BFN 761: Derivative Securities (2 credits)</td>
</tr>
<tr>
<td>BFN 761: Derivative Securities (2 credits)</td>
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</tbody>
</table>

In addition, we propose four informal areas of concentration, each with a different set of courses (though some course overlap exists) that will be sequenced to optimally time the delivery of material and improve fulfillment of prerequisites. The degree program is 30 credits and with a revised core of 12 credits, each concentration will be 18 credits. The proposed areas of concentration are as follows in Table 2:
Table 2: Proposed Informal Concentrations
(Courses are 2 credits, unless otherwise stated)

<table>
<thead>
<tr>
<th>Corporate Finance</th>
<th>Asset Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUFN 751: Financial Strategy for Corporations</td>
<td>BUFN 760: Applied Equity Analysis</td>
</tr>
<tr>
<td>BUFN 752: Financial Restructuring</td>
<td>BUFN 762: Fixed Income</td>
</tr>
<tr>
<td>BUFN 753: Corporate Governance</td>
<td>BUFN 763: Portfolio Management</td>
</tr>
<tr>
<td>BUFN 754: Corporate Risk Management</td>
<td>BUFN 764: Quantitative Investment Strategies</td>
</tr>
<tr>
<td>BUFN 755: Entrepreneurial Finance and Private Equity</td>
<td>BUFN 766: Financial Engineering</td>
</tr>
<tr>
<td>BUFN 770: International Investment</td>
<td>BUFN 773: Institutional Asset Management</td>
</tr>
<tr>
<td>BUFN 771: International Corporate and Project Finance</td>
<td>BUFN XXX: Introduction to Market Microstructure*</td>
</tr>
<tr>
<td>BUFN XXX: Special Topics in Corporate Finance (4 credits)*</td>
<td>BUFN XXX: Special Topics in Asset Management (4 credits)*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Risk Management</th>
<th>General Finance</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUFN 754: Corporate Risk Management</td>
<td>BUFN 752: Financial Restructuring</td>
</tr>
<tr>
<td>BUFN 762: Fixed Income</td>
<td>BUFN 754: Corporate Risk Management</td>
</tr>
<tr>
<td>BUFN 763: Portfolio Management</td>
<td>BUFN 760: Applied Equity Analysis</td>
</tr>
<tr>
<td>BUFN 765: Fixed Income Derivatives</td>
<td>BUFN 762: Fixed Income</td>
</tr>
<tr>
<td>BUFN 772: Bank Management</td>
<td>BUFN 763: Portfolio Management</td>
</tr>
<tr>
<td>BUFN XXX: Special Topics in Risk Management (4 credits)*</td>
<td>BUFN XXX: Current Topics in Finance (4 credits)*</td>
</tr>
</tbody>
</table>

*New Courses

II. OVERVIEW and RATIONALE

The Robert H Smith School of Business established the Master of Finance degree two years ago. Prior to that, the program operated as a Master of Science in Business with a concentration in Finance. The new degree was established to strengthen the recognition of the degree and increase its attractiveness to a worldwide applicant pool. Currently, we enroll three sections per year at 65 students per section with an average GMAT score of approximately 715.

Most of our students enrolling in the program have Bachelor’s degrees in a business related field such as finance or accounting. Outside of those areas, our dominant undergraduate majors are mathematics or economics. Given the background that many of them enroll with, the Master of
Finance program is looking to alter the core curriculum by reducing the material that is remedial for most students, thereby providing students the opportunity to move to advanced topics earlier in the program. Eliminating the required accounting course allows us to move Financial Econometrics to the first term of the program, better preparing students for the analytical tools that they learn in their advanced courses. We instead propose that students take an accounting course prior to entering the program, as most already do, much like the current requirement that they have taken a statistics course before enrolling. For those that would like additional access to accounting, students would retain the option of taking an accounting course (including BUSI 610) that would be included in the six credits outside of BUFN that the degree provides for.

While students currently have the option to waive the accounting course (BUSI 610), many of them currently do not exercise that option. A dominant reason for that is that there is a social component to the cohort structure of the core that many students choose not to deviate from. This change enables moving the financial econometrics sequence to earlier in the curriculum (replacing the slot currently occupied by BUSI 610). As a result, students will finish the core curriculum earlier and have greater flexibility in their course scheduling.

With regard to informal concentration tracks, we have provided academic advising linking courses to desired career outcomes. This proposal seeks to provide greater structure to that advising. While we are not looking for these informal concentrations to be too rigid, we do believe that our students will benefit from more formal guidance on course sequencing. We also expect greater enrollment predictability as enrollments in the informal concentrations should inform us regarding the number of sections and classroom sizes needed for registration purposes. All of these concentrations tracks will have capstone “Special Topics” courses (two 2-credit courses) that allow students to engage in advanced integration of the topics in these particular courses and apply them to contemporaneous issues in the respective areas.

The Corporate Finance concentration prepares students to work in finance functions in non-financial corporations. All companies have individuals devoted to the tasks of evaluating which investments should be funded, how the proceeds will be raised to fund those investments, and how left-over funds are dispersed. The courses within the Corporate Finance concentration assist students in building the necessary skills to take on such responsibilities within firms. They will obtain advanced knowledge in building project valuation models, the trade-offs associated with various forms of external capital, the analysis of merger and acquisition opportunities, and with risk management operations in those companies. Students will be well-prepared to take business analyst and treasury operations positions within companies as a result of this concentration.

The Asset Management track is well-suited for students interested in working for financial firms: investment banks, commercial banks, money managers, and market makers. It is important for employees of such companies to deeply understand the various financial products and how those products are traded through various markets and exchanges. The courses within the Asset Management concentration not only extensively cover the various financial securities individually but also help students to obtain the skillsets necessary to understand how they interact with each other in a larger portfolio context. They will learn to build rigorous models for how to manage money that is allocated across securities, markets, and asset classes. Students
will be well-prepared to take positions such as securities analyst, portfolio analyst, lending officer, or securities broker.

The Risk Management track prepares students to work on risk management functions in financial institutions, non-financial institutions, and regulatory bodies. The financial crisis and the legislative and regulatory responses demonstrate the need for all organizations to better understand the risks of their business models and financial securities. The Risk Management track provides students with the latest tools and regulatory frameworks for assessing and managing the various sources of risk confronting institutions today. The track combines courses from both the Corporate Finance and the Asset Management areas in ways specific to the risk management function as well as including a capstone risk management sequence that integrates these topics. Students will be well-prepared to take positions such as risk analyst or business analyst within the corporate risk management function of a company.

The General Finance track is being created to give students a greater overview of the courses being offered in the program for those seeking a more general management type role. Not all students identify during their studies the specific career path in which they are interested. We have therefore constructed the General Finance concentration to inform students which combinations of courses will offer students the greatest breadth (as opposed to depth, for which the other three concentrations provide guidance) of finance so that they are prepared irrespective of what career path they ultimately choose.

We would expect most of our students to select one of these four tracks with Corporate Finance and Asset Management expected to be the most popular, at least based upon the academic advising we have done so far. However, we anticipate even greater growth in the popularity of Risk Management as the Dodd-Frank Act implementation continues and more organizations recognize their deficiencies in this functional area. These concentrations also draw upon the strengths of the finance group at the Smith School of Business and serve as an example of the complementarities of strong research faculty with rigorous academic programs.

### III. COURSE CHANGES TO CORE CURRICULUM

Students enter the MFin program with a Bachelor’s degree. The MFin program requires 30 credit hours comprised of core courses (currently 14 credits) and electives (at least 16 credits). Completion of the degree is feasible within one academic year though many students may choose to spread their coursework over two academic years to offer an opportunity to gain experience from an internship during the summer and work on applications of the course content in experiential learning projects (ELPs).

We propose reducing the core courses to 12 credits by eliminating BUSI 610 – Financial Accounting from the set of required courses. As stated above, many of our students enter with experience in financial accounting and would benefit from instead moving to more advanced topics earlier in the program. The rest of the core would remain as currently structured, as follows:
BUSI 640 Financial Management: Explores time value of money, capital budgeting, financing decisions, capital structure, and payout policy.

BUFN740 Capital Markets: This course covers modern theories and techniques for investments and asset pricing. The main topics covered are: portfolio theory, pricing models, market efficiency, fixed income investment, forwards and futures, and options.

BUFN 750 Valuation in Corporate Finance: Examines investment decisions by corporations, using various tools such as NPV, APV, and real option valuation. Particular attention is paid to cost of capital computation, pro forma cash flow statements, and other important elements of carefully executed evaluation of capital investments.

BUFN 758N** Financial Econometrics I: Introduces the basic skills for analyzing financial data and testing financial models. The course includes a review of linear optimization for use in factor models, the statistical properties of asset returns, event studies, time series analysis and models of stochastic volatility. The course will include theory mixed with several applications.

BUFN 758O** Financial Econometrics II: This course is a continuation of Financial Econometrics I.

BUFN 761 Derivative Securities: Introduces options and futures contracts, and presents an overview of why and how they are used. The course focuses on the valuation, and the measuring and management of risk exposure, of options and futures. Derivative securities on various underlying assets (equities, indices, commodities, foreign exchange, etc.) are analyzed, using different application contexts.

**Both of these courses are in the process of being made permanent courses.

IV. CREATION OF INFORMAL AREAS OF CONCENTRATION

While students in the MFin program are free to satisfy the elective requirements however they choose, creation of these informal areas of concentration will better enable students to select their courses and sequence them in a way that we expect will better prepare them for particular careers. Students may select (or design) a career-relevant specialization that provides them with a depth of knowledge in a particular domain of finance expertise.

To help students benefit from the range of courses available within the Master of Finance program, the Smith School proposes providing a variety of informal specializations. The specialization guidelines provide students with additional information they may use when selecting a set of electives to best meet their needs. Appendix A contains descriptions for all elective courses, in addition to providing an overview of the current program structure.

As stated above, all of these concentrations tracks will have seven advanced electives and two capstone “Special Topics” courses, totaling 18 credits. The “Special Topics” courses allow students to engage in advanced integration of the topics covered in the concentration’s courses and apply them to contemporaneous issues in the respective areas. We anticipate that the
“Special Topics” courses would be integrated with our career services and business development activities to best prepare students for jobs in these particular areas.

A. Corporate Finance Concentration

The proposed Corporate Finance concentration will include the following courses:

- BUFN 751: Financial Strategy for Corporations
- BUFN 752: Financial Restructuring
- BUFN 753: Corporate Governance
- BUFN 754: Corporate Risk Management
- BUFN 755: Entrepreneurial Finance and Private Equity
- BUFN 770: International Investment
- BUFN 771: International Corporate and Project Finance
- BUFN XXX: Special Topics in Corporate Finance (4 credits)*

B. Asset Management Concentration

The proposed Asset Management concentration will include the following courses:

- BUFN 760: Applied Equity Analysis
- BUFN 762: Fixed Income
- BUFN 763: Portfolio Management
- BUFN 764: Quantitative Investment Strategies
- BUFN 766: Financial Engineering
- BUFN 773: Institutional Asset Management
- BUFN XXX: Introduction to Market Microstructure*
- BUFN XXX: Special Topics in Asset Management (4 credits)*

C. Risk Management Concentration

The proposed Risk Management concentration will include the following courses:

- BUFN 751: Financial Strategy for Corporations
- BUFN 754: Corporate Risk Management
- BUFN 762: Fixed Income
- BUFN 763: Portfolio Management
- BUFN 765: Fixed Income Derivatives
- BUFN 772: Bank Management
- BUFN XXX: Introduction to Market Microstructure*
- BUFN XXX: Special Topics in Risk Management (4 credits)*
D. General Finance Concentration

The proposed General Finance concentration will include the following courses:

- BUFN 751: Financial Strategy for Corporations
- BUFN 752: Financial Restructuring
- BUFN 754: Corporate Risk Management
- BUFN 760: Applied Equity Analysis
- BUFN 762: Fixed Income
- BUFN 763: Portfolio Management
- BUFN 773: Institutional Asset Management
- BUFN XXX: Current Topics in Finance (4 credits)*

Courses with an * are new courses that we will introduce as part of the roll-out of these concentrations (Course proposals forthcoming). Otherwise, all other courses have been taught in the program for a number of years and are permanent courses.

V. IMPACT

The proposed changes to the Master of Finance core curriculum and creation of informal specializations minimally impacts the Master of Finance program and the Business School, generally. All of the courses, above, have been or will be taught by a member of the Graduate Faculty.

The only measurable impact of the course changes will be on advisors and MFin program staff who will need to familiarize themselves with the concentrations. Over time, we expect these changes to make academic advising, course planning, and registration easier. No additional staff, resources, or facilities will be needed.

Student impact is expected to be minimal and overall, positively received. Students will still have the option of taking additional accounting courses should they feel unprepared but most of our students will benefit from the earlier offering of financial econometrics. As informal guidelines, the four proposed specializations are not a constraining requirement. Students can complete the MFin program with any combination of program relevant electives.
Appendix A: Master of Finance Program Overview

Goal and Contribution to the Strategic Plan

The Robert H. Smith School of Business’ Masters in Finance (MFin) program designed to provide students with a rigorous understanding of and the ability to apply core finance principles. The financial crisis on Wall Street and around the globe has forever changed the way we think about finance. The world of modern finance is now shaped by evolving regulation, globalization and a renewed focus on corporate responsibility. Now more than ever, financial planning and decision making depend on understanding and using the new ideas and tools required in sophisticated financial management. Students who complete the MFin degree possess the knowledge and skills necessary to address the challenges confronting financial decision makers and financial market participants.

The Robert H. Smith School of Business houses one of the strongest academic finance departments in the world as well as the recently created Center for Financial Policy (CFP). The research and experience of the faculty are particularly suited to attract some of the brightest students in the world who are seeking a more thorough understanding of financial issues. Faculty and staff currently affiliated with the Robert H. Smith School of Business and the Center for Financial Policy hold appropriate degrees in finance, economics, and public policy that are relevant and necessary for the Masters in Finance degree.

The strategic plan of the Robert H. Smith School of Business states as its first objective the goal of “Growing future leaders to address global issues.” The University of Maryland College Park mission statement sets a goal to “continue to build a strong, university-wide culture of graduate and professional education” and to provide knowledge-based programs and services that are responsive to the needs of the citizens of the state and the nation. Faculty and students in the Masters of Finance program collaborate with financial institutions and regulators at the state, national, and international level to address current issues challenging financial markets. Given UMCP’s proximity to the nation’s capital, our facility in Washington DC, and the significant changes in financial regulation resulting from the Dodd-Frank financial reform bill, we are in a unique position to offer students opportunities unmatched by competitor institutions.

Student demand for our Master of Finance program is extremely high. For the 2014-2015 academic year, we received 1,379 applications and enrolled 180 students. For the 2015-2016 academic year, we have received 1,070 applications as of March 2, 2015. Admitted student statistics demonstrate the quality of students demanding this offering:

<table>
<thead>
<tr>
<th></th>
<th>Fall 2014</th>
<th>Fall 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average GMAT</td>
<td>713</td>
<td>716</td>
</tr>
<tr>
<td>Average GPA</td>
<td>3.5</td>
<td>3.5</td>
</tr>
</tbody>
</table>

The Masters in Finance degree (MFin) is a professional degree for students wishing to pursue careers in investment banking, money management, commercial banking, corporate finance, and financial market regulation. Core courses provide excellent fundamentals and a large number of electives will allow students the flexibility to become specialists or highly qualified generalists.
They learn how to analyze and direct the financial decisions of an organization, and gain a fresh understanding and a deep appreciation for the theoretical foundations of finance today.

The MFin program offered by the Robert H Smith School of Business provides students with:

a) Comprehensive knowledge of foundational financial concepts, products, and financial market structure necessary for engaging in any form of financial analysis.
b) In-depth understanding of estimating value creation on the part of private enterprises
c) The ability to measure and manage trade-offs between risk and return
d) Analytical skills including detailed financial modeling, the ability to design and empirically estimate financial relationships, and the creation of financial statements and forecasts
e) Knowledge of the legal and ethical issues related to financial management and an understanding of the role of all stakeholders when capital allocation decisions are made
f) An understanding of the regulatory structure of financial markets and the role that policymakers and regulators play in the efficient operation of financial markets

g) Skills that will endure beyond the next business cycle and that will enable institutions to endure and thrive, even during times of economic downturn
h) Expertise in financial management that will make our students valuable contributors to a variety of employers and organizations in diverse communities

Elective Courses
In total, the Master of Finance curriculum consists of 30 credits. In addition to the core courses described above, the Master of Finance program also offers a number of electives. All courses listed below are 2 credit courses. Upon approval of the academic advisor, students may take up to six credits in related fields.

**BUFN 751 Financial Strategy For Corporations:** An advanced course in corporate finance, focusing on the issues that firms face when they plan to raise external capital from financial markets. The focus is on the financing problems faced by mid-market to large firms and on capital raised from public markets. The forms of external finance vary from simple debt or equity to more complex securities that bundle with an element of risk management.

**BUFN 752 Financial Restructuring:** Examines alternative ways to increase firm value through corporate restructuring, including domestic and international acquisitions, spin-offs, carve-outs, and leveraged buy-outs. Focus is on theory, practice, and empirical evidence related to each of these forms of restructuring, and emphasis is placed on valuation analysis and strategic considerations.

**BUFN 753 Corporate Governance:** Examines corporate governance and its impact on shareholder value. Topics include conceptual foundation for corporate governance, the role and duties of the board of directors, indicators of board effectiveness and best practices, design features of executive compensation contracts, the significance and prevalence of stock options, the perverse incentives of stock options and controversy over compensation practices, corporate governance failures and anatomy of corporate scandals, the essentials of the Sarbanes-Oxley Act and other regulatory reforms.
BUFN 754 Corporate Risk Management: Explores the theory and practice of financial risk identification, measurement, and mitigation at financial and non-financial firms. Topics include hedging with options and futures, interest rate risk management, Value-at-Risk (VaR), Cashflow-at-Risk (CaR), Earnings-at-risk (EaR), credit risk, equity risk, commodities risk, exchange rate risk, and lessons from risk management disasters.

BUFN 755 Entrepreneurial Finance and Private Equity: Explores advanced topics in corporate finance, with major emphasis on how financiers help firms plan for growth and develop finance strategies firms use for different types of securities at different points in the industry's and firm's life. Securities will include private financing and placements, Venture Capital (VC), Initial Public Offerings (IPOs), Private Equity and Leveraged Buyouts.

BUFN 760 Applied Equity Analysis: Applies financial concepts and tools to the analysis and valuation of equity securities. In addition to focusing on fundamental (DCF based) analysis of corporations, the course covers topics such as the EIC (Economy/Industry/Company) framework, financial statement analysis, relative value analysis, and contingent value analysis. Students will apply tools to value stocks and provide stock recommendations.

BUFN 762 Fixed Income Analysis: Focuses on understanding and valuing financial instruments whose market values are tied to interest rate movements. The course develops tools such as discount functions, duration, convexity, and immunization to analyze the interest rate sensitivity and value of fixed income securities and portfolios. A variety of fixed income securities are examined, particularly zero coupon and coupon bearing bonds.

BUFN 763 Portfolio Management: Examines the theory and application of portfolio management techniques in detail, including the use of various asset classes in constructing efficient portfolios. Various risk and performance measurements for portfolios are examined, drawing on classic portfolio theory, as well as more recent index and factor models.

BUFN 764 Quantitative Investment Strategies: Provides an advanced treatment of asset allocation strategies and performance evaluation. Quantitative techniques are applied to examine equity and fixed-income portfolio management strategies. The course provides a deeper understanding of the measurement of risk and its relationship to return, as well as of multi-factor models. Implementation issues, including statistical estimation, backtesting and portfolio construction, are covered, as are strategic versus tactical asset allocation, and performance evaluation.

BUFN 765 Fixed Income Derivatives: Introduces the use and valuation of fixed income assets such as exchange-traded bond futures and options, forward contracts on interest rates, fixed and floating rate bonds with embedded options, floating rate notes, caps, collars, floors, interest rate swaps, and mortgage backed securities. Tools include the application of binomial option pricing trees, and the analysis of stochastic yield curves.

BUFN 766 Financial Engineering: Introduces and applies various computational techniques useful in the management of equity and fixed income portfolios and the valuation of financial derivatives and fixed income securities. Techniques include Monte Carlo Simulation and
binomial/lattice pricing models. Emphasis is on bridging theory with the design of algorithms and models that can be directly applied in practice.

**BUFN 770 International Investment:** Examines foreign exchange markets (spot, forwards, futures, swaps, options), focusing on the use and valuation of these instruments. Other issues related to international security markets (equities and bonds/interest rates) and global portfolio management are discussed.

**BUFN 771 International Corporate and Project Finance:** Focuses on the role of financial management in the multinational firm, and the financing and management of international projects. Topics include international capital budgeting, global cost of capital, project financing, and the measurement and management of exchange rate exposure by corporations.

**BUFN 772 Bank Management:** Examines the economic role and regulation of banks and other financial institutions, and the structure of assets, liabilities and capital in these institutions. Tools are presented to analyze the various risks faced by banks, including interest rate risk, market risk, operational risk and off-balance sheet risk. Topics also include liquidity risk, liability risk, reserve management, deposit insurance, and capital requirements.

**BUFN 773 Institutional Asset Management:** Examines how money is managed by organizations such as university endowments, pension funds, mutual funds, hedge funds, and private equity funds. Emphasizes the incentives professional money managers face within the context of the organizational structure in which they operate. Particular attention will be paid to compensation structures and monitoring mechanisms.