



Proposal for a

Master of Finance (M.F.) Program

in the

Rotman School of Management

Submitted to

UNIVERSITY OF TORONTO

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TABLE OF CONTENTS

	<i>Page</i>
1 Executive Summary	3
2 Academic	4
2.1 Description and rationale for the proposal	4
2.1.1 Description of proposed program	4
2.1.2 Rationale for proposal.....	5
2.2 Pedagogical and other academic objectives, including expected benefits of the proposed program	9
2.3 Projected student demand	9
2.4 Impact on the Department's and Division's program of study, including impact on other divisions, if any	9
2.5 Evidence of consultation with other affected divisions.....	10
2.6 Appropriateness of the name and designation of the new program	10
2.7 Program description and requirements, course titles/numbers, faculty members.....	11
2.7.1 Program description and requirements.....	11
2.7.2 Course titles/numbers.....	13
2.7.3 Faculty members.....	18
3 Planning and Budget	20
3.1 Resource implications.....	21
3.1.1 Staffing.....	21
3.1.2 Space.....	22
3.1.3 Libraries	22
3.1.4 Computing facilities.....	24
3.1.5 Enrolment/admissions	24
3.1.6 Revenues/costs	24
3.1.7 Financial Aid	24
4 Space and Facility	25
4.1 Requirements for physical facilities	25
4.2 Capital projects for approvals	25
5 Students	25
5.1 Student affairs and services	25
5.2 Student conduct and discipline	26
5.3 Financial Support.....	26
5.4 Student registration and information systems.....	26
 Appendix	
1. Chief Librarian's Report	

1 Executive Summary

This proposal is for a Master of Finance [MF] professional degree program at the Rotman School of Management at the University of Toronto. The program will be offered over 20 consecutive months using a cohort-based model. It fills a void in the financial services industry in Toronto and in Canada, builds on the strength of the Rotman School, and serves a need for quality academic instruction of graduate students in the field of finance.

The current proposal flows directly from the Rotman School's academic priorities, as part of the University of Toronto's 'Stepping Up' planning exercise, and it builds upon the School's academic strength in the field of Finance. Rotman's finance area was ranked recently among the top ten finance faculties in the world by the *Financial Times*.

The program focuses on the important and growing field of corporate and institutional financial management, a key engine for growth in Toronto and Ontario. It expands Rotman's portfolio of graduate management offerings and allows the University to remain among the world leaders in modern academic management education.

The program allows experienced, highly qualified students who are not currently served by purely technical continuing education programs, or by non-finance oriented general management programs, to advance in their finance careers and enhance their knowledge base. The program differs significantly from the existing MBA offered at Rotman in that it focuses exclusively on finance, which represents a small fraction of the MBA degree. No other programs at the University target the same incoming students as the proposed MF, and students will not take courses in other programs.

The program will use existing facilities and resources at Rotman, and staffing needs can be met with current faculty as well as independently planned future faculty additions. The expected steady state enrollment is 60 students per year, and tuition fees and BIU income will cover all associated costs. Approval for the program comes from the Master's Programs Committee, the Executive Committee, as well as the Faculty Council of the Rotman School in April 2006. The MF program is expected to begin in September 2007.

While the MF is a new program, it builds on the existing strength of faculty, the existing connections with the Toronto Financial Community, as well as the experiences of other Master of Finance programs at leading universities located in major financial centers around the world. In particular, it is modeled on, and has been designed with input from former faculty members of, the London Business School Master of Finance, one of the very top programs in the world. Courses will be a combination of new courses and significantly re-developed existing finance courses at Rotman. MF students will have full access to the career development centre as well as the student financial aid programs of Rotman. All of the faculty involved in the program already teach in the various graduate programs at Rotman and they are listed in the document.

2 Academic

2.1 Description and rationale for the proposal

2.1.1 Description of proposed program

The Rotman School of Management would like to offer a graduate program leading to the professional degree of Master of Finance (MF). This program has been identified in the Rotman School's 'Stepping Up' academic plan as a priority component of the School's graduate expansion. It will be taught primarily by the faculty members in the Finance Area of the Rotman School, and takes advantage of the University of Toronto's proximity to the financial centre of Canada as well as the School's consistent placement of its Finance area in the top ten according to the *Financial Times* Business School rankings. Courses will be taught in the evenings, during weekends and in two blocks of four to five days. This program is designed for professionals in the business community who have chosen to concentrate their careers in finance. The program will devote itself to providing specialized training in all areas of finance to an audience with advanced knowledge in the field. Our intention is to start the program in September 2007. The targeted class size is 60 students, moving through the program as a cohort. Admissions to the program will be students who possess an undergraduate degree and work experience in finance. The program consists of 20 months (5 academic terms) of course work. The program is identical for all students.

The MF program will have a very limited impact on other programs at Rotman. Because MF classes are held predominantly in the evening, classroom space and other resources are easily available. Similarly, this scheduling will ensure that faculty will be able to continue to teach in the other Rotman programs (MBA, undergraduate B.Comm.) as well as the MF. In order to ensure that the MF teaching load does not reduce the teaching of finance faculty in the other programs at Rotman, senior faculty members listed later in this document have agreed to teach the initial offering of the MF on an overload (stipend) basis. Current and past junior hiring and overall future hiring plans at Rotman are sufficient to cover for the remaining teaching hours as well as the long-term steady-state teaching needs in the MF program. Other resources needed for the MF (administrative staff, IT resources and support, program services, etc.) are planned to grow at Rotman to accommodate the MF needs. Administrative staff supervisors have been informed and they have indicated their ability to accommodate the MF needs with current staff and planned additions. Lastly, program directors of other Rotman programs have indicated that there will be very little effect of the new MF program on both the applicant pool and the job placement prospects of students in existing Rotman programs.

2.1.2 Rationale for proposal

The objective of the Master of Finance Program is to provide a superior education in all aspects of financial management by developing critical, scholarly and professional skills in all major fields of finance for students who aspire to a career in the finance sector. This program will permit

students to acquire advanced analytical skills as well as to develop sound judgment in finance to equip them to hold high-level positions in the finance industry.

The objectives will be achieved through a series of advanced courses in all aspects of finance, offered in a carefully constructed sequence over 20 months.

We expect that the students who apply to the MF program come largely from two areas of prior employment: supporting and research roles in investment banks and other financial institutions, as well as financial functions in industrial firms, consulting firms, or government agencies. They will have some finance training, significant business experience, as well as business or quantitative educational backgrounds. They may have professional accreditations like the CA or CFA. This background is similar to that of students in other, established MF programs at other universities like the London Business School, and it is consistent with informal surveys of potential students and finance professionals that we have undertaken. These entering students will benefit from the MF experience by broadening and deepening their understanding of financial management, acquiring general business and management skills, interacting with other students in a structured learning environment, and by being exposed to the latest research and practice in finance.

As a result of participating in the MF, graduating students can be expected to move into leadership positions at the same employers, move to larger institutions and firms, and take on more responsibility for financial functions and staff supervision. Their MF training will make them clearly the most well-trained finance professionals in any institution. Their theoretical and practical knowledge will make them suited to both research positions as well as client interaction at all levels in a financial institution or functional area. Employers interested in MF students are expected to be predominantly investment banks, asset management firms, and private equity firms. The initial level of employment for a MF graduate will likely be higher than 'first year associate', which is the most common entry level for recent graduates of non-specialist masters programs like the MBA. These assertions are again based on comparative data from existing programs like the Masters in Finance at the London Business School, as well as extensive conversations with financial professionals in the Greater Toronto Area.

The Master of Finance program that this document proposes for the University of Toronto, offered through the Rotman School of Management, is modeled after the Master of Finance from the London Business School in the UK. The target audience for the proposed program is young finance professionals who intend a career in senior financial management.

There are several masters level programs in Canada offering a specialization in finance. Some, such as the Rotman MBA, offer students the opportunity to major in finance by taking a small number of finance courses from a set of possible electives, once the core courses of the degree are complete. The core non-finance courses represent more than 50 percent of the degree

requirements. The Schulich school of Business at York University offers a specialization in Financial Engineering as part of its MBA degree. The University of Waterloo through its Department of Statistics and Actuarial Science and the School of Accountancy, HEC Montréal, the Université de Montréal and Université Laval all offer MSc in Financial Engineering or Quantitative Finance. The programs at HEC Montréal and Laval are offered in French.

The Sobey School of Business at St. Mary’s University, the Sauder School of Business at the University of British Columbia and the Odette School of Business at the University of Windsor all offer a Master of Finance degree. None of these programs is offered in a city that can claim to be a significant financial centre. The St. Mary’s program is specifically for students from the People’s Republic of China.

There are also several academic institutions outside of Canada that offer programs bearing some resemblance to the proposed Master of Finance.

The Finance Area of the Rotman School has repeatedly been ranked in the top ten by the Financial Times Rankings. There is an absence of graduate education in Toronto geared for young finance professionals wishing to accelerate along their career path. The Rotman School, situated in the financial centre of the country, is ideally located to launch such a program.

The proposed program offers a broad-based education in finance. The program does not concentrate on quantitative finance, financial engineering, corporate finance, or any other major area of finance exclusively. Rather, it is a carefully constructed sequence of specialized courses that will result in a solid knowledge base in all areas of modern finance. The nearest direct competition for this program is at the London Business School.

Master of Finance Programs at other Universities						
Canada						
University	Location	School	Program Name	Length	Full-time or Part-time	Cost
University of Alberta	AB	Department of Economics and Department of Finance and Management Science	Master of Arts in Economics and Finance	20 months	Full	N/A
University of British Columbia	BC	Sauder School of Business	Master of Science in Finance	2 Years	Full	\$3,200 for Canadian, \$7,200 for Non-Canadian

Concordia University	QC	Goodman Institute of Investment Management, John Molson School of Business	MBA in Investment Management	3 Years	Both	\$16,000
Dalhousie University	NS	Faculty of Management	Master of Business Administration in Financial Services	2-7 Years	Both & Distance	N/A
HEC Montréal	QC		MSc Financial Engineering (in French)			
Université Laval	QC		MSc Finance (in French)			
Université de Montréal	QC		MSc Financial Mathematics & Computational Finance			
Queen's University	ON	School of Business	Master of Science in Management in Finance	12 Months	Full	N/A
University of Saskatchewan	SK	College of Commerce	Master of Science in Finance	2 Years	Full	\$1000 per term
Simon Fraser University	BC	Segal Graduate School of Business	Master of Financial Risk Management	12 months	Full	\$19,950
St. Mary's University	NS	Sobey School of Business	Master of Finance	14 Months		\$37,800 US
University of Waterloo	ON	Department of Statistics and Actuarial Science and School of Accountancy	Master's Program in Finance	12 mo. + work term	Full	\$15,000
Wilfred Laurier University	ON	Faculty of Business	MBA with CFA Option	3 Years	Part	N/A
University of Windsor	ON	Odette School of Business	MBA in Finance	N/A		N/A
Wilfred Laurier University	ON	Faculty of Business	MBA with CFA Option	3 Years	Part	N/A
York University	ON	Schulich School of Business	MBA with financial engineering specialty			

Top International Schools offering MF Programs

University	Location	School	Program Name	Length	Full-time or Part-time	Cost
Lancaster University	United Kingdom	Management School	Master in Finance	12 Months	Full	N/A
Oxford University	United Kingdom	Saïd Business School	Master in Financial Economics	9 Months	Full	£22,000

Instituto de Empresa	Spain		Master in Financial Management	10 Months	Full	€26,000
Erasmus University	Netherlands	Rotterdam School of Management	Master in Financial Management	12 Months	Full	€22,500
ESADE	Spain		Master in Financial Management	9 Months		€20,500
	Madrid		Master in Financial Management	11 Months		€20,500
HEC	France		Master in International Finance	12 Months	Full	€13,600
			Master in International Risk Management	12 Months	Full	€13,600
Cambridge University	United Kingdom	Judge Business School	Master of Philosophy in Finance	9 Months	Full	£3,000 UK/EU, £11,000 International Students
			Master of Philosophy in Financial Research	9 Months	Full	£3,000 UK/EU, £11,000 International Students
SDA Bocconi	Italy		Master of Quantitative Finance and Risk Management	12 Months	Full	N/A
University of Rochester	NY, USA	Simon Graduate School of Business	Master of Science in Finance	9 Months	Both	US\$41,652
Boston University	MA, USA	School of Management	Master of Science in Investment Management	17 Months	Part	N/A
London Business School	United Kingdom	London Business School	Masters in Finance (MIF)	12 Months	Both	£28,000
Berkeley	CA, USA	Haas School of Business	Master's in Financial Engineering	1 Year	Full	US\$44,000
Vanderbilt University	TN, USA	Owen Graduate School of Management	Masters of Science in Finance (MSF)	9 Months	Full	US\$33,830

2.2 Pedagogical and other academic issues, including expected benefits of the proposed program

The Master of Finance is designed to serve a group of potential students who seek a professional masters degree, but whose professional interests are more specifically oriented towards a particular industry, the financial services industry, than those of regular MBA students. As such, the

program offers a more targeted education as well as different credentials than the MBA. The program will allow those students to enroll in a program specifically designed for their needs, and it expands the Rotman School's portfolio of specialized Professional masters programs in an area of significant market potential. [see also Section 2.1.2 above].

2.3 Projected student demand

The Master of Finance is expected to reach a steady state of 60 students admitted each autumn by approximately the third year the program is available. Thus, in the steady state, the program size is expected to be 120. Initial admissions will be 30, gradually increasing each year to the steady state.

2.4 Impact on the Department's and Division's program of study, including impact on other divisions

The Rotman School offers a wide portfolio of programs. At the undergraduate level, it shares the Program in Commerce and Finance with the Faculty of Arts and Sciences. At the graduate level, it offers Masters of Business Administration (MBA), the Masters in Management and Professional Accounting (MMPA), and a PhD Program. The Master of Finance (MF) will complement the existing portfolio of masters programs by offering a specialized degree for finance-oriented professionals.

The MF has been identified in the School's 'Stepping Up' plan as an important part of the Rotman School's graduate expansion. It is complementary to existing programs and will not affect the nature and quality of any of the existing programs.

2.5 Evidence of consultation with other affected divisions

At the present time, the University of Toronto offers two programs with similar titles, but these programs have different target applicants, different content, and different student output.

Master of Mathematical Finance (MMF)

The MMF is a technical degree, offered by the Department of Mathematics, with virtually no business school ambitions. It is targeted at inexperienced recent math/sciences undergraduates who want technical/research [back-office-only] jobs. In fact, the MMF's objective explicitly states that it is primarily training traders.

The Rotman School provides support to the MMF program by way of facilitating the teaching of the two finance-oriented courses in the program. All MMF students are admitted into a Rotman MBA elective (MGT 2307, Advanced Derivatives] and another MMF course is being taught on overload

by Rotman faculty.

A letter of support from the Director of the MMF program is submitted with the proposal.

Master of Financial Economics [MFE]

The MFE is being offered jointly by the Department of Economics and the Rotman School of Management. It is a theoretical economics program that allows students to explore the analytical underpinnings of financial markets. Students take the complete MA sequence in economics, supplemented by up to six half-courses offered by the Rotman School of Management.

The students are mostly recent economics or commerce undergraduates with little or no work experience, and the content of the program does not prepare students for applied finance and higher level functional responsibilities in large financial institutions. The students are being placed predominantly in mid-level functional positions without managerial responsibility.

It is, of course, the intent to maintain the successful cooperation between both units in the existing MFE Program. A letter of support from the Director of the MFE program is submitted with the proposal.

2.6 Appropriateness of the name and designation of the new program

The Master of Finance [MF] is an internationally recognized specialized degree that characterizes programs which provide professional master's level education in finance.

2.7 Program description and requirements, course titles/numbers, and faculty members

2.7.1 Program description and requirements

- Admission requirements

For applicants to be considered for acceptance into the MF program they must meet the minimum *academic eligibility* criteria listed below. In addition, applicants will have to meet the *professional experience* criteria listed below. Applicants are required to submit a standardized application form, an official transcript, two letters of reference, a personal statement, and a resume. Students who meet all the criteria will be ranked on the basis of grades, standardized graduate test scores, and professional experience by the *admissions committee*. The top ranked students will then be invited for interviews with Rotman faculty, and a short writing sample will be requested on-site at that time. The overall admission decision will then be based on a weighted average score from all submitted materials as well as the interview performance. After being admitted to the program,

students are expected to satisfy the *additional program regulations*.

Academic Eligibility

Applicants must meet all of the following requirements.

- 1) **School of Graduate Studies Requirements:** applicants must meet the requirements for entry into the School of Graduate Studies of the University of Toronto. These include a 4-year University of Toronto bachelor's degree or its equivalent from a recognized Canadian or International University.
- 2) **Grade Point Average:** applicants must have achieved a minimum mid B average (75% or 3.0 GPA) in the final year of their undergraduate or prior graduate education. If an applicant believes that his or her grades are not reflective of academic performance and potential (e.g. due to international differences in university assessment), or if other proof of ability like very strong standardized graduate test scores exist, the applicant can request special consideration from the *admissions committee*.
- 3) **Standardized Graduate Tests:** applicants are expected to have taken the GMAT or GRE (general) examination. While there is no minimum score, test performance will play a role in determining student ranking. Students who have passed all three levels of the CFA exam are exempt from the GMAT/GRE requirement.
- 4) **English Language Requirements:** applicants must demonstrate their ability to communicate in English in one of the following ways: (i) an undergraduate or graduate degree from a university where the language of instruction and examination was English; (ii) satisfactory performance on a standardized English Language Test. Minimum scores for the TOEFL are 600 (written) or 250 (computer), with a minimum score of 5.0 on the TWE or Essay. Equivalent performance on other tests (IELTS, MELAB) may be considered in special circumstances, but the TOEFL is preferred.

Professional Experience

Applicants are expected to have at least two years of full-time work experience in finance. In special circumstances, other substantial experiences will be considered in lieu of the work experience in finance, but only when accompanied by demonstrated exceptional academic and professional potential. Students will generally not be accepted immediately after they complete their undergraduate education, unless they have significant prior full-time work experience.

Admissions Committee:

All admission decisions will be made by a standing committee comprised of the academic director(s) of the MF program, a representative from the Rotman School of Management Graduate Programs Office, as well as two additional faculty members from the Rotman School of Management. This committee will annually update the appropriate weighting of different

admission requirements in the final admission decisions, and publish this and other relevant information about the admission process to potential future applicants.

Additional Program Regulations:

Laptop Policy: all students are expected to have their own laptop computer, which must be connectable to the University of Toronto wireless network.

Minimum Math, Statistics, Accounting, and Microsoft Excel Skills:

while not formal admission requirements, students must demonstrate a minimum level of skill in these fields in order to be allowed to begin their coursework. Applicants will have to provide evidence of their abilities via a mandatory pre-test, administered by the Rotman School of Management at least two months before the program starts. Those applicants in need of further training will then have to complete required pre-courses offered by the Rotman School. The minimum required skill levels will be communicated to the applicants in their application package.

- o Program requirements

The program requires completion of a structured sequence of courses outlined below. Students will take 14 half-credit courses over 5 academic terms, beginning in the fall term and ending in the spring. The completion of the following courses will be required from all MF students in the same sequence and as a cohort. New cohorts of students will start each September. No advanced standing credits will be offered.

Course	Graduate Courses
Foundations of Finance I	1/2
Theory and Practice of Modern Corporate Finance	1/2
Introduction to Derivatives	1/2
Management of Large Financial Transactions	1/2
Investment Banking	1/2
Risk Management and Financial Institutions	1/2
Analysis of Fixed Income Markets	1/2
Advanced Accounting for Finance Professionals I	1/2
Foundations of Finance II	1/2
Portfolio Management and Trading Risks	1/2
Advanced Accounting for Finance Professionals II	1/2
Leadership and Governance in Financial Institutions and Corporations	1/2
Theory and Practice of Modern Investments	1/2
Theory and Practice of Advanced Derivatives	1/2
Total	14 Half Courses

Relation to existing courses at the Rotman School of Management:

- All of the above courses are new courses.
- All courses will be taken only by MF students.
- In special circumstances, students may request approval from the MF academic director, as well as the MBA Programs director, to attend and substitute one MBA elective course for one of the required MF courses.
- In special circumstances, MBA students may request approval from the MF academic director, as well as the MBA Programs director, to attend and substitute a MF course for one of their MBA elective courses.

The program does not offer combined courses in which both graduate and undergraduate students would enroll.

2.7.2 Course titles/numbers

Program Structure	Faculty Member Responsible
Fall Year 1	
Foundations of Finance I	David Goldreich
Theory and Practice of Modern Corporate Finance	Jan Mahrt-Smith
Introduction to Derivatives	Alexandra MacKay
Winter	
Management of Large Financial Transactions	Laurence Booth
Investment Banking	Laurence Booth
Risk Management and Financial Institutions	John Hull
Summer	
Analysis of Fixed Income Markets	Marcel Rindisbacher
Advanced Accounting for Finance Professionals I	Brent Bertrand
Fall Year 2	
Foundations of Finance II	Jan Mahrt-Smith
Applied Risk Modeling and the Business of Trading	Tom McCurdy
Advanced Accounting for Finance Professionals II	Ramy Elitzur
Winter	
Leadership and Governance in Financial Institutions and Corporations	Laurence Booth
Theory and Practice of Modern Investments	Kevin Wang
Theory and Practice of Advanced Derivatives	Alan White

All MF courses are new courses, and all are taken by all MF students.

Course Descriptions

MGT4310H Foundations of Finance I

This course is designed to prepare students for their future specialized finance courses. It aims to introduce the field of finance, provide an overview over its components, examine connections between different areas of finance, and most importantly provide the analytical, conceptual, and empirical foundations of modern business finance. In addition to the fundamental introduction, the course will develop all tools and skills students will need in their future finance classes. These include: (i) time-value of money computations; (ii) valuation methodologies for projects, firms, and financial securities; (iii) risk-return theory and portfolio theory; (iv) foundations for corporate financing decisions.

MGT4311H Theory and Practice of Modern Corporate Finance

The purpose of this course is to develop a thorough understanding of all issues related to the valuation of companies and developing their optimal financial structure. It addresses the valuation of public firms, private firms, stand-alone projects, as well as divisions of firms and substantial corporate assets. In addition, it examines theories of capital structure and optimal financing strategies. The course will build the conceptual underpinnings of valuation and corporate financing, develop analytical tools, compare methodologies, and analyze historical data to develop best-practice techniques for different situations. The course will provide a careful analysis of comparative valuation methodologies (multiples) and link these to cash flow valuation (DCF, EVA, CFE) as well as to financial structure and the resulting cost of capital. Lastly, real options valuation techniques will be developed and applied in special cases.

MGT4312H Introduction to Derivatives

Derivative securities appear across the landscape of modern finance, and so the first term of the program introduces students to key securities in this arena. Forwards, futures, swaps and options are featured in this course. How they work, how they can be used by market participants and an understanding of key pricing models are the main topics covered. This knowledge equips students for the discussion of real options in the corporate finance framework in MGT4311, and provides the building blocks for many of the more advanced courses in derivatives, financial risk management, investments and fixed income securities that students will study in later terms of the program.

MGT4313H Management of Large Financial Transactions

This course develops the managerial foundations for executing large scale financial transactions, such as capital raising, mergers, acquisitions, spin-offs, and joint ventures. The particular managerial knowledge required by the actors in these financial events includes finance specific negotiation skills, an understanding of corporate governance and corporate control considerations, as well as a thorough appreciation of the consequences of financial transactions for overall business strategy. The course will utilize different teaching methods, including case analysis, simulation exercises, experiential learning, and group activities in order to put the students into the relevant situations, and to allow students to develop a set of skills to respond to the situations.

MGT4314H Risk Management and Financial Institutions

This course deals with the way companies, particularly financial institutions, manage risk. It covers credit risk, market risk, operational risk, liquidity risk, and model risk. The nature of bank regulation and the Basel II capital requirements for banks are examined. Other topics include methods for monitoring volatilities and correlations, copulas, credit derivatives, the calculation of economic capital, and RAROC. The final class integrates earlier material by looking at what we can learn from the big losses that have occurred at financial and non-financial institutions in the last 20 years.

MGT4315H Investment Banking

This course examines significant financial and corporate transactions. In the context of capital raising, mergers, acquisitions, divestitures, project finance, and other structural and strategic financing events, the course compares alternative choices and strategies and analyzes their consequences using real world cases. Students will learn to consider and integrate analytical models, firm-specific strategic considerations, as well as industry and economy-wide considerations into optimal decision making. An analysis of the relevant financial regulatory and market structure environment will supplement the firm level analysis. The course

builds on the analytical foundations developed in MGT4311 as well as the managerial skills developed in MGT4313.

MGT4316H Advanced Accounting for Finance Professionals I

This course develops a full understanding of all financial statements published by modern corporations. The course deepens the students' technical knowledge of the process by which financial statements are prepared, and it demonstrates the proper use and interpretation of financial information by investors, regulators, and other market participants. Financial reporting and disclosure are examined from a corporate management perspective. Thus, the course develops a thorough understanding of the reporting strategy of companies, the underlying motivation of management to shade their financial statements in the way it best serves their overall strategy, and the constraints on reporting provided by the regulatory framework in which firms operate. The course takes a multi-discipline approach and integrates material across accounting, finance, and strategy.

MGT4317H Analysis of Fixed Income Markets

Debt capital markets are very large. Students will be exposed to several types of debt markets, why different debt securities exist and what their differences are, and will learn to work with the analytical tools that are common in fixed income analysis. The course will introduce some of the innovative products that now exist in fixed income and examine the evolution of debt securities. The working knowledge of derivative securities developed earlier in the program permits students to analyze those debt securities that contain derivative features. The management of debt securities concludes the topic areas covered. Students will work with data from the Financial Research and Trading Lab, thus being introduced to the complexities of the actual market.

MGT4318H Foundations of Finance II

This course is the second general foundations course in finance. It examines both modern financial theories as well as recent empirical evidence in asset pricing and corporate finance. It develops the underlying theoretical arguments in asset pricing theories such as the CAPM, APT, Fama-French three and four factor models, as well as variations on these models based on recent empirical findings. It provides evidence on the efficiency of capital markets and the likely ability of investment professionals. In addition, the course examines the theoretical foundations for corporate finance and evaluates the academic evidence on their relevance. Overall, this course takes a scholarly perspective on financial markets and corporate finance, but it also spends time on examining the empirical support and real world relevance of the theories.

MGT4319H Portfolio Management and Trading Risks

This course will use industry-standard sources of information (including Bloomberg and Reuters) and tools to identify and manage risks associated with portfolio management. Participants will use a portfolio, linked to real-time market quotes, to implement each application. Example applications include: determining which securities to trade (valuation uncertainty); executing the trades (liquidity and execution price risk); quantifying alternative ways of measuring risk associated with holding period return (portfolio volatility and VaR); passive versus active portfolio management risks; and implementing hedge fund strategies. Hedge fund strategies will be evaluated both from the viewpoint of investment risks and also operational risks. The focus for every topic is to model the expected return and risks inherent in a particular strategy. This requires a quantitative approach to learn how to measure and manage the relevant risks.

In addition to implementing active portfolio management using real-time market

quotes, wherever possible we will also use simulated trading cases to learn about the risks and returns of particular strategies. For example, the Analyst-Trader Case links valuation forecasts to timing of portfolio rebalancing, and the Sales & Trader Case teaches the importance of market liquidity when executing orders.

MGT4320H Advanced Accounting for Finance Professionals II

This course serves two purposes: first, it broadens and deepens the students' ability to understand, analyze, and interpret financial statements and notes. This includes a thorough understanding and appreciation of the incentives and pressures impacting on corporate financial reporting decisions. The course builds on the first accounting course, which looked at financial reporting from a corporate management perspective. This course, instead, examines the issues from the perspective of the external user of accounting information. The second purpose of the course is to emphasize the link of accounting with economics, finance, marketing, and strategy. As such, there will be formal analysis of incentive models and agency issues, economic analysis of competition and strategic interaction, as well as financial analysis of corporate valuation based on accounting information. The course will rely on historical business cases as well as real-time analysis of companies and their current financial situations, problems, and choices.

MGT4321H Leadership and Governance in Financial Institutions and Corporations

This course provides students with a comprehensive, integrated view of how large financial institutions and corporations are led by top management. This perspective will allow students to understand their own decisions in the larger context of their institutions, as well as advance their own careers inside them. The components of leadership addressed include the theory of leadership and leadership effectiveness, leadership attributes, as well as the path to leadership inside organizations. Beyond leadership, the course discusses the comprehensive approach to achieving a strategic vision that must be undertaken by any top executive manager. In particular, the course will introduce the concepts of Integrative Management and Business Design. Lastly, the course will discuss the Ethical foundations of leading a modern corporation or institution.

MGT4322H Theory and Practice of Advanced Derivatives

This course examines the valuation of derivatives in more depth than earlier courses. It discusses stochastic calculus, the Black-Scholes analysis, numerical procedures, exotic options, the equivalent martingale measure approach, the standard market models for valuing interest rates derivatives, the construction of trees for the short rate, the LIBOR market model, non-standard swaps, and real options. The aim of the course is not to prepare students for a "quant" job. Instead it is to put students in the position where they can communicate with and manage "quants".

MGT4323H Theory and Practice of Modern Investments

This course provides an introduction to the financial theory and analytical tools for making investment decisions and for understanding how prices are determined for stocks and bonds. The course covers a broad range of topics including risk-return characteristics of important financial instruments, stock return predictability, asset allocation, factor-based risk adjustment, stock valuation techniques, technical analysis, fundamental analysis, market efficiency, anomalies, evaluation of portfolio managers, term structure of interest rates, and bond portfolio management.

Research Components in MF Courses

MF courses will have research elements that equal or exceed those in courses of the other professional masters degrees (MBA, MMPA) offered at the Rotman School of Management. While these elements are modest due to the nature of the content and purpose of a professional masters program, they do include the following: (i) students are expected to be able to understand the ideas contained in relevant scholarly research, (ii) students are expected to be able to read textbook treatments of theoretical and empirical research in financial management, (iii) students are expected to build simple models, (iv) students are expected to test simple models using real-time and historical financial data, applying rigorous quantitative analytical methodologies as well as qualitative analysis tools, (v) students are expected to present their results in a clear and scholarly manner, and (vi) students are expected to fully understand and adhere to the accepted rules and principles with regard to academic honesty, plagiarism, and disclosure of sources.

The courses that have the most research content are the following: MGT4315 (Investment Banking) requires students to build their own valuation models and test these using the data and information provided in a number of business cases; MGT4318 (Foundations of Finance II) requires students to statistically test a series of asset pricing models using historical data and reach conclusions about market efficiency, financial risk drivers, and observed return patterns; MGT4319 (Portfolio Management and Trading Risks) is taught entirely in the Financial Research and Trading Lab, where real time and historical financial data is used to construct trading models, test trading and asset management rules and strategies, and estimate rates or return and likely future market risk and performance parameters. Students are expected to develop their own models and hypotheses and test these using statistics and econometric skills; MGT4323 (Theory and Practice of Modern Investments) asks students to read and understand a variety of existing research publications and textbook treatments on 40 years of existing financial market research. Students will then apply this knowledge to current investment problems, develop hypotheses about profitable investment strategies, present these to others, and test them using simulated and real world data to ascertain their statistical validity.

2.7.3 Faculty members

There are 21 full-time tenure stream faculty members in the Finance Area of the Rotman School of Management. In addition, there is one full-time teaching stream faculty member, and three adjunct faculty members. Several accounting faculty (listed below) will teach in the program. These faculty members have demonstrated skill in the instruction of mature professional students, as evidenced by consistent ranking of the Finance Area at Rotman in the top 10 of schools worldwide that are included in the *Financial Times* Business School Rankings. The range of research interests and expertise of the faculty members means all but one of the proposed courses can be offered by full-time faculty, with more than one faculty member able to instruct each course. Three of these faculty members are cross appointed with other areas within the Rotman School, and one is

cross-appointed with the Department of Economics. Only one full-time faculty member is expected to retire in the next seven years.

Faculty Members			
Faculty Name and Rank	Gender	Home Unit	Supervisory Privileges
Category 3			
Aivazian, Varouj Professor Cross appointed with Dept of Economics	M	ECO/UTM	Full
Booth, Laurence <i>Professor</i>	M	Rotman	Full
Brean, Don <i>Associate Professor</i> Cross appointed with Business Economics	M	Rotman	Full
Davydenko, Sergei <i>Assistant Professor</i>	M	Rotman	Masters
Derrien, Francois <i>Assistant Professor</i>	M	Rotman	Masters
Doidge, Craig <i>Assistant Professor</i>	M	Rotman	Masters
Duan, Jin-Chuan <i>Professor</i>	M	Rotman	Full
Dyck, Alexander <i>Associate Professor</i> Cross appointed with Business Economics	M	Rotman	Full
Elitzur, Ramy <i>Associate Professor</i> Accounting	M	Rotman	Full
Goldreich, David <i>Associate Professor</i>	M	Rotman	Masters
Halpern, Paul <i>Professor</i>	M	Rotman	Full
Hope, Ole-Kristian <i>Assistant Professor</i> Accounting	M	Rotman	Masters
Hull, John <i>Professor</i>	M	Rotman	Full
Kan, Raymond <i>Associate Professor</i>	M	Rotman	Full
Kramer, Lisa A. <i>Assistant Professor</i>	F	UTM/Rotman	Masters
Mahrt-Smith, Jan <i>Assistant Professor</i>	M	Rotman	Masters
McCurdy, Tom <i>Professor</i>	M	Rotman	Full
Pomorski, Luckasz <i>Assistant Professor</i> starting in 2006	M	Rotman	Masters
Rindisbacher, Marcel <i>Assistant Professor</i>	M	Rotman	Masters

Rotenberg, Wendy <i>Professor</i> Cross appointing with Accounting	F	Rotman	Full
Wang, Kevin Q. <i>Associate Professor</i>	M	Rotman	Full
Wei, Jason <i>Associate Professor</i>	M	UTSC/Rotman	Full
White, Alan <i>Professor</i>	M	Rotman	Full
Wong, Franco <i>Assistant Professor</i> Accounting Starting in 2006	M	Rotman	Masters
Category 4			
MacKay, Alexandra <i>Senior Lecturer</i>	F	Rotman	Masters
Category 5			
Drory, Asher <i>Adjunct Associate Professor</i>	M	Rotman	
Irwin, Heather-Anne <i>Adjunct Associate Professor</i>	F	Rotman	
Kirzner, Eric <i>Professor</i>	M	Rotman	
Category 6			
Bertrand, Brent <i>Sessional Lecturer</i> Accounting	M	Rotman	

Category 3: Tenured or tenure-track core faculty members who are involved in teaching and/or supervision in other graduate program(s) in addition to being a core member of the graduate program under review.

Category 4: Non-tenured or tenure track core faculty members who are involved in teaching and/or supervision in other graduate program(s) in addition to being a core member of the graduate program under review.

Category 5: Other core faculty: this category may include emeritus professors with supervisory privileges and persons appointed from government laboratories or industry as adjunct professors.

Category 6: Non-core faculty who participate in the teaching of graduate courses

3 Planning and Budget

3.1 Resource implications

The Master of Finance program will be delivered in the Rotman School in existing classrooms; no other space implications exist. During an initial three-year phase – as an interim measure -, the courses will (in part) be delivered by existing faculty on overload. Subsequently, it will require the addition of 4 FTE in the finance area, which will be fully funded through the Rotman School base budget. The addition has been included in the School’s approved Academic Plan, and resources are fully committed. In the steady state, the program will also require 2 FTE administrative positions, for which resources are committed.

The subsequent table summarizes the Rotman School’s budget plan for the proposed program. The budget for the program follows the current RCM protocol established for the Rotman School MBA programs. The standard formula for generating a student financial aid pool is based on a 30% set-aside, and the net transfer to the University follows the present protocol. The initial start-up deficit will be covered by the Rotman School budget. No other budgetary implications for the University are expected.

The budget plan has been reviewed and approved by the Vice-Provost, Planning and Budget.

The budget lists relevant assumptions.

Rotman School Master of Finance Budget Plan

	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012
Assumptions						
Entering Class		30	40	50	60	60
Class Size		30	70	90	110	120
Tuition (8% entering cohort inc p.a.)		29,160	31,493	34,012	36,733	39,672
Tuition (4% in program inc p.a.)			30,326	32,753	35,373	38,203
HCE's		7	14	14	14	14
Faculty FTE's		2.00	4.00	4.00	4.00	4.00
Administrators	1.00	1.00	2.00	2.00	2.00	2.00
BIU		7,832	7,832	7,832	7,832	7,832
Revenue						
Tuition Revenue/Total.		874,800	2,169,504	3,010,712	3,972,628	4,672,463
entering cohort		874,800	1,259,712	1,700,611	2,203,992	2,380,311
continuing cohort		0	909,792	1,310,100	1,768,636	2,292,152
BIU Revenue		234,960	548,240	704,880	861,520	939,840
Financial Aid		234,747	586,234	820,135	1,090,247	1,290,967
University Transfer		110,976	271,774	371,559	483,415	561,230
Net Revenue	0	764,037	1,859,735	2,523,898	3,260,486	3,760,106
Expenses						
Course Delivery (100% FT @250K plus benefits, 5% p.a.increase)		612,500	1,288,875	1,356,075	1,428,805	1,501,150
Program Administration @60K (5% p.a. increase)	60,000	63,000	132,300	138,915	145,861	153,154
Course Materials @1,000		30,000	70,000	90,000	110,000	120,000

Marketing	50,000	50,000	30,000	20,000	20,000	20,000
Rotman Program OH		257,250	600,250	771,750	943,250	1,029,000
Transitional OL Savings (years 1 to 3 at 100,50,25% OL)		-612,500	-644,438	-339,019	0	0
Transitional OL Teaching @15K plus benefits		115,500	118,125	59,063	0	0
Total Expenses	110,000	515,750	1,595,113	2,096,784	2,647,916	2,823,304
Program Surplus	-110,000	248,287	264,623	427,114	612,570	936,802

3.1.1 Staffing

During an initial three-year phase, the courses will (in part) be delivered by existing faculty on overload. Subsequently, it will require the addition of 4 FTE in the finance area, which will be fully funded through the Rotman School base budget. In the steady state, the program will also require 2 FTE administrative positions, supported by the Rotman School budget. (See also section 3.1]

3.1.2 Space

1.1 The Master of Finance will be offered in the Rotman School Building at 105 St. George Street. Classroom facilities, group study space, and administrative support space will be shared with the existing professional masters programs at the School. As the program will be delivered at night and on weekends, classroom and group study facilities can be shared with current MBA and EMBA programs. No other immediate space implications are anticipated. The Rotman School expansion planned for Site 11 [anticipated completion Fall 2010] will provide room to expand the program, if necessary.

3.1.3 Libraries

The Business Information Centre (BIC) at the Rotman School of Management is one of the largest campus libraries at the University of Toronto. The staff at the BIC have specialized knowledge of resources needed to answer very detailed questions in all aspects of business, including finance. The Financial Research and Trading Lab (FRTL) is located in the same physical space as the BIC, and BIC staff work very closely with FRTL staff to answer all questions that arise. Along with the wealth of databases that are accessible in the FRTL (the BIC is currently setting up access to these databases to make them available within the BIC as well as the Lab), the BIC has a number of resources that would be extremely useful for

students in the Master of Finance program. The BIC website is located at <http://www.rotman.utoronto.ca/bic/>.

The University of Toronto Library system has access to over 44,000 electronic journals, many of which are finance specific. The BIC also has an extensive collection of hard copy serials in the finance area, including such titles as Risk and others that are not available electronically. There are hundreds of other databases and thousands of other resources that could, potentially, be very useful for students and faculty in this area, but each question is unique, and the appropriate resources would be used to answer these questions.

In addition, the program requires a range of specialized databases available at the Rotman School of Management. The following lists the most important databases for studies specializing in finance, along with accompanying brief descriptions.

Database	Description
FP Advisor	primary source for extensive Canadian Public and Private company financial information going back 10 years; information on dividends, new issues, investor reports, and mergers and acquisitions, among other sub-category databases
Investext Plus	detailed analyst and brokerage reports on international public companies
Mergent Online	coverage of over 25,000 companies worldwide, with up to 15 years of financial information
Worldscope	another international company database with financials and securities documents

All of the above databases are accessible throughout the University or at home to any student or faculty member with a t-card. The BIC has other databases that are useful for finance students who are not networked, and so are only available in the BIC. These include:

Database	Description
<i>Dun and Bradstreet</i> Industry Norms and Ratios	provides key business ratios related to an industry's insolvency, efficiency and profitability
Lexis-Nexis	international company directories and industry reports, and access to extensive financial filings
SDC	detailed information on mergers and acquisitions and financials involved with such deals
Valueline	covers over 1700 stocks with extensive information on such things as price performance and growth projections

The BIC also has many other databases that could be used to research companies and industries, both from a financial as well as a management point of view. These databases include:

Database	Description
Business Source Premier	SWOT analyses, extensive coverage of the business press with access to thousands of business periodicals, and market research reports
Factiva	This is a Dow Jones and Reuters product that includes almost 10,000 resources such as newspapers, periodicals and company indexes. Includes the full-text of the <i>Globe and Mail</i> , the <i>Wall Street Journal</i> and the <i>National Post</i> among many others
ProQuest	Thousands of current periodicals and newspapers, including the database Canadian Business and Current Affairs, and reports from Hoovers

The BIC also has hard copy materials such as company directories, Standard and Poor's Industry Surveys, textbooks, and other specialized materials that would be of benefit to students and faculty specializing in Finance.

As a result of the subject expertise that the BIC staff has in all management areas, we are able to help students find what they need, and we are able to refer them to the Financial Research and Trading Lab, or other areas, when it is appropriate.

3.1.4 Computing facilities

All Rotman graduate students are provided with accounts that allow the student to access the Rotman Student Portal and Learning Management System, Rotman email, a variety of web applications, and access to the internet via the University's wireless network. Students will work in a system and applications environment that has been standardized on Microsoft's Windows platforms. The school has the most extensive wireless network on campus and is geared for students using wireless laptops. Some general purpose computers are available to students for express or emergency use. Computers in the Business Information Centre (BIC) provide access to UofT Library catalogue systems, electronic publications, and specialized on-line and local business information databases. The Financial and Research Trading Lab (FRTL) is a teaching and research computing facility with access to the global financial community, sophisticated financial analysis software and data-based resources in a real-time environment.

3.1.5 Enrolment/admissions

The program aims at a steady state annual admission of 60 students, with a corresponding total student number of 120. Initial admissions will be 30, to be ramped up to steady state size over a period of three to four years.

The program will ultimately require the addition of 4 FTE faculty and 2 FTE program administrators.

The program will be delivered within current Rotman School facilities. Classrooms and work study space are sufficient during the initial phase, and the Rotman School expansion building (expected completion July 1010) will allow for expanded space to be allocated to the program.

3.1.6 Revenues/costs

See Section 3.1 above.

3.1.7 Financial aid

The Scotiabank Professional Loan Program has been designed to assist Rotman students in financing their degrees. The program consists of a line of credit that can be accessed throughout the academic year. Each year there is a maximum allowable limit on which the student can draw. This limit includes tuition and a personal living amount, as well as approximately \$3000 for the student's laptop computer.

Supported by the Rotman School financial aid pool (see below section 5.3), the tuition and laptop portion of the loan is interest-subsidized – the Rotman School will pay the interest on that portion of the loan for the duration of the program. While in school, the student is only responsible for interest on funds drawn in excess of tuition.

Students may also be eligible for different loan options in Canada as domestic students, for government assistance, for loans from other financial institutions and for teaching assistantships.

4 Space and Facilities**4.1 Requirements for physical facilities**

See section 3.1.2 above.

4.2 Capital projects for approvals

N/A

5 Students**5.1 Student affairs and services**

All services and facilities provided regularly to professional masters students in the Rotman School of Management will be available to the students in the program.

Professional education requires that students engage in a variety of learning experiences through various means. In order to ensure that the students

acquire the body of knowledge necessary for them to become high-level finance professionals, they will be required to take the entire sequence of courses in the program. The courses will include both lectures and case studies as appropriate, as well as focused workshops on key topics of current relevance to the finance industry.

An important feature of the program will be the opportunity to take advantage of the significant, but varied, work experience of the participants. The students will be coming with significant experience in the financial services industry, but typically each student's work experience will be limited to a small number of functional areas or markets within finance. Combining the students together as a cohort will allow each to learn from the others' experiences. This will add immeasurably to class discussions, especially in case studies in which the theories learned in class are applied to real-world situations.

The participants will take the sequence of courses in lockstep together as a cohort. This will improve the group dynamics and their ability to learn from each others' experiences.

5.2 Student conduct and discipline

Student conduct and discipline in the program will be governed by standard SGS regulations.

5.3 Financial Support

Students in the program have access to the Rotman School financial aid pool generated by the 30% set-aside requirements specified in the School's RCM protocol.

5.4 Student registration and information systems

All standard SGS registration and enrolment procedures will apply for students in the program.

Report on Library Resources for the Proposed M.A. Program in Finance

BACKGROUND

With holdings of more than 11 million titles, University of Toronto Libraries rank third largest in North America, following only Harvard and Yale (Association of Research Libraries, 2005). It is the policy of the Library to acquire copies of almost all commercially published scholarly imprints, and to collect broadly in all languages which support the curriculum. Material is acquired both by selector librarians and through approval plans established with more than 50 dealers around the world.

DESCRIPTION OF THE COLLECTION

Monographs

Finance material is found primarily in the HG section of the Library of Congress call number system, with business mathematics books classed in HF 5691 – HF 5716. Using data from the 2001 North American Title Count (prepared by the Library Research Center of the University of Illinois at Urbana-Champaign and the Association for Library Collections & Technical Services), one can compare U of T holdings with those at similar sized university libraries (excluding Harvard and Yale, which did not participate in the project). U of T holdings in the HG and HF classes rank 9th and 13th respectively. A contributing factor to these somewhat low rankings is the inclusion of insurance in the HG 8000 call number range; Robarts does not collect extensively in the field of insurance.

Recognizing the need to increase holdings of finance material, the Library has begun expanding its selection and ordering profiles for its U.S. and British dealers, paying greater attention paid to the areas of international finance, financial management, investment and stock markets, derivative securities and business mathematics. As well, the Library will shortly be launching its new myiLibrary initiative in which, in conjunction with our U.S. dealer, publishers' collections of online texts will be locally loaded for the use of U of T students and faculty. Initially backlists from Taylor & Francis and Oxford University Press will be available, but it is expected that the books of major business publishers such as Wiley and McGraw-Hill may also eventually be included.

Journals

The University of Toronto Library, like all North American libraries, has found it difficult to keep up with the continually rising cost of serial subscriptions, and thus has been able to place few subscriptions for individual new titles in the last decade. Fortunately, through licensing online journal collections, we have gained access to a vast

range of periodical literature, and at present subscribe to or otherwise make available almost 33,400 electronic journals in all disciplines. It is not possible to determine precisely how many of these are relevant to those working in finance, but a rough keyword search of e-journal titles containing words such as 'finance/financial', 'investment/investments' and 'derivative/derivatives' finds about 190. There are, of course, many more business, economic, mathematical science and general social science journals which would be of interest to finance researchers. At present the Library has licensing arrangements with 1320 publishers of online journals and 101 providers, and is committed to negotiating as many arrangements for journal collections as funding permits.

Electronic Resources

The Library offers access to a huge number of online resources in addition to journals: more than 700 article indexes and abstracts, nearly 1000 reference tools such as dictionaries and encyclopedias, almost 3000 newspapers and nearly 300,000 electronic books, many of which are in the field of business and management. Among journal indexes of interest to finance students and faculty are: the multidisciplinary ScholarsPortal database which includes ABI/INFORM Global, many ProQuest databases, Web of Science's Social Science Citation Index, Factiva, Business Source Premiere, Investext Plus, Mergent Online, Valueline, and Lexis-Nexis (available at the Rotman School's Business Information Centre).

Supporting Collections

Several collections compliment or supplement the Robarts Library business holdings. The most significant of these is the Business Information Centre located in the Rotman School itself. A separate report has been submitted by the director of the BIC.

The Data, Maps & Government Information Services section, Robarts Library (<http://www.chass.utoronto.ca/datalib/>) collects publications from international organizations such as the World Bank, the International Monetary Fund, and the UN, as well as publications of federal banks such as the Bank of Canada. The Data Library provides access to a vast array of international socio-economic, trade and financial data sets, and offers extensive reference assistance to those using the materials.

The fields of mathematical finance and financial engineering when classed in QA are held by the Mathematical Sciences Library (<http://www.library.utoronto.ca/math/>) and the Engineering and Computer Science Library (<http://www.library.utoronto.ca/engineering-computer-science/>) respectively.

LIBRARY'S COMMITMENT

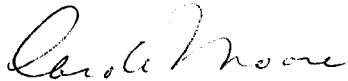
The strength of the Library's financial commitment to finance, and all fields of research, depends on University policy and government funding. It is still the University's stated policy to protect, so far as possible, the Library's acquisitions budget from rising costs. The acquisitions fund will, therefore, continue to be supported relative to the total funding made available to the Library by the University.

Prepared by:



Mary-jo Stevenson
Collection Development Department
Robarts Library

Submitted by:



Carole Moore
Chief Librarian
University of Toronto Library

April 20, 2006