FIN 650: Financial Risk Management
Definition, measurement and management of risk in financial institutions as well as non-financial corporations, including, in particular, oil and gas companies. Major techniques of risk management such as portfolio diversification, asset liability management, static and dynamic hedging with derivatives, estimating default probabilities, calculating Value-at-Risk, stress testing, scenario analysis, and risk allocation are studied.

FIN 653: Advanced Corporate Finance
Advanced work on the management of corporate funds. Selected topics from the various fields of financial activity with emphasis on trends, current problems and research are studied. The topics emphasized include: capital expenditure policies, long-term and short-term financing problems, dividend policies, mergers and consolidations, and trends in financial markets.

FIN 655: Quantitative Methods in Finance
Statistical methods that have wide applicability in business and financial decision making. The use of such recent techniques as new or SIPS, Excel and Mornigstar for analytics and database purposes will be emphasized.

FIN 670: Investment Analysis
In-depth examination of fixed income securities and an introduction to recent developments in the field. Emphasis is given to the place of derivatives in the portfolio, the active management of risk and the management of retirement and pension funds.

FIN 672: International Financial Management
Understanding the forces that affect the relative value of currencies in international markets, covering the major problems encountered by the firm in financing international operations.

FIN 675: Fixed Income Analysis
Fundamentals of both bond markets and fixed income derivative markets. These fundamentals include pricing and interest rates, the risks of investing in bonds, and the role of bonds in an investment portfolio. Topics include: U.S. Treasury securities, U.S. agency securities, corporate bonds, asset backed securities, loans, international sovereign debt, and markets for derivatives based on fixed income instruments.

FIN 684: Finance Seminar
Cases in business finance that develop students skills for identifying problems, analyzing relevant material, and using appropriate financial theory for making decisions in simulated business settings. Some of the core concepts involved in mergers and acquisitions: valuation, negotiation, due structuring, corporate strategy, financing are also covered.

FIN 685: Mergers and Acquisitions Analysis
Merger and acquisition activities with global markets, financial liquidity and the outlook for individual countries/industries/companies. Topics include: Why do companies engage in M&A activities, Does M&A add value, How do companies and investors improve the success of their M&A activities, why many transactions do not work well or add value? Some of the core concepts involved in mergers and acquisitions: valuation, negotiation, deal structuring, corporate strategy, financing, are also covered.

FIN 686: Ethics in Finance
This is an advanced business ethics course that addresses the ethical challenges in finance. The aim of this course is to understand the ethical issues that arise in the various areas of finance, which include financial markets, financial services, intermediary intermediation, and to develop an ability to resolve these issues effectively and responsibly within actual financial practice.

FIN 691: Options, Futures, and other Derivatives
Valuation and practical application for both hedging and speculation. Topics include the characteristics of options, forward contracts, futures, and swaps; arbitrage and the no-arbitrage principle; creating value and profit diagrams; and the structure of the derivatives markets. Ethical and economic issues associated with the use of derivatives is reported in the current financial press are also covered.

FIN 692: Financial Risk Management
Definition, measurement and management of risk in financial institutions as well as non-financial corporations, including, in particular, oil and gas companies. Major techniques of risk management such as portfolio diversification, asset liability management, static and dynamic hedging with derivatives, estimating default probabilities, calculating Value-at-Risk, stress testing, scenario analysis, and risk allocation are studied.

FIN 693: Financial modeling
The course is an introduction to computation finance and financial econometrics. The emphasis of the course is on making the transition from the theoretical models in the classical text to the empirical models using real data. Microsoft Excel is the primary tool to implement the different financial models. These models include but are not limited to asset return calculations, portfolio theory, index models, the capital asset pricing model, option pricing models, bond valuation and investment performance analysis. The course will also make some use of statistics and probability.

FIN 698: Financial Institutions Management
The purpose of the course is to analyze the major issues in the financial management of financial institutions. Especially, the concepts and techniques required for the successful management of firms will be discussed. The course will get into an institutional detail by analyzing the various roles of financial institutions in the regulatory and innovation environment and their joint effects on the organizational structure of financial institutions. The main focus will be on the differences rather than institutional details.

FIN 699: Internship in Finance
Internship course. Students will undertake relevant work experience while working with a faculty sponsor for credit.

POM 681: Business Analytics and Data Mining
Introduction to business analytics and data mining. Topics covered include data mining, exploratory data analysis, methods for classification and prediction, affinity analysis, multiple regression, logistic regression, discriminant analysis, and clustering. Applications of business analytics and data mining methodologies to a wide variety of real world business data are included.

Foundation courses

FIN 500: Financial Accounting
This course stresses both the significance of accounting information and the necessity for its smooth flow through the organization so managers can efficiently make plans and control resources. Topics include: interpretation, use, and analysis of accounting data for internal reporting, planning, and controlling of business activities and managerial decision-making. The course also covers an introduction to accounting on people in both services and manufacturing operations.

FIN 500: Economic Concepts for Managers
A case study approach involving the following statistical concepts: descriptive statistics, probability, sampling, probability distribution, statistical estimation, chi-square testing, analysis of variance and simple regression-correlation analysis.

FIN 597: Financial modeling
The course is an introduction to computation finance and financial econometrics. The emphasis of the course is on making the transition from the theoretical models in the classical text to the empirical models using real data. Microsoft Excel is the primary tool to implement the different financial models. These models include but are not limited to asset return calculations, portfolio theory, index models, the capital asset pricing model, option pricing models, bond valuation and investment performance analysis. The course will also make some use of statistics and probability.

FIN 599: Internship in Finance
Internship course. Students will undertake relevant work experience while working with a faculty sponsor for credit.

Program overview
The Charlton College of Business Master of Science in Finance (MSF) program provides advanced and affordable education in finance for those with finance, business, or non-business baccalaureate degrees. The MSF is a ten course, 30 credit degree program that aims to equip students with the theoretical knowledge and practical skills to be innovative, well informed, and experienced finance professionals. The curriculum is based on the financial theory and empirical methods employed by professionals practicing corporate finance, financial security valuation, financial modeling, portfolio management, financial services management, financial risk management, and corporate governance. The focus is on a high-quality yet well-rounded program designed to meet student demand for integrated and experiential learning and developmental experiences that prepare them to be competitive, market-ready, and successful in a rapidly changing global environment.

Students can choose between either a general finance or quantitative finance concentration for their degree.

The quantitative finance concentration has mathematical and capital market focus that will appeal to students interested in quantitative financial analysis, risk management, investment management, and financial technology careers. The quantitative finance concentration is STEM (science, technology, engineering and math) designated, offering students on a VISA an extended OPT upon completion of the degree.

The MSF program will also prepare students for obtaining nationally and globally recognized credentials including the Chartered Financial Analyst (CFA) designation. Our program covers the major topics area of the CFA exams, so graduates of the program will have a strong foundation from which to draw in taking the exams.

Selected faculty and principal areas of expertise

- Michael Anderson, PhD, CFA, Indiana University: sub-prime financing, information economics/game theory, financial intermediation, corporate finance.
- Duong Nguyen, PhD, CFA, FRM, Florida International University: empirical asset pricing, market microstructure, corporate finance.
- Zhenzhen (Tina) Sun, PhD, University of Rhode Island: asset pricing, fixed income and corporate finance.
- Zhaolin (Lily) Xu, PhD, Virginia Tech: mutual fund's institutional investors, behavioral finance, empirical investments.
- Gopala Vasudevan, PhD, New York University: corporate finance, mergers and acquisitions, security offerings, dividend policy, corporate control.
- Jia Wu, PhD, Rutgers University: accounting information systems and auditing, and analytical controls in continuous auditing.
- B.K. Rai, PhD, Wayne State University: multivariate diagnostic pattern recognition and data mining, developing models using computer experiments, prediction of unexplored variables, and field performance studies from large dataset narratives.

Program strengths and highlights

- The Charlton College of Business Master of Science in Finance (MSF) Program
- CCB is AACSB accredited, the international gold standard. Only 10% of business schools have all undergraduate and graduate programs accredited by AACSB.
- Helps students gain a high-level understanding of corporate finance, investment, risk management, international finance, among other topics to prepare them for careers in different financial areas.
- Prepares students for the CFA and other finance certificates. Having both MSF degree and CFA designation will set students apart from much of the competition within the financial industry.
- Is taught by leading scholars and practitioners in the field.
- Offers great classroom experience and career opportunities in finance.
- Offers a Bloomberg certification program prior to graduation. Having an employee who is already Bloomberg-certified provides an advantage to the employer and can also make the prospective employee a better candidate among similarly qualified competition.

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**Application requirements**

Admission to the MSF program is available to qualified candidates who hold a bachelor's degree from an accredited institution of higher education. Candidates must submit the required application materials and application fee to the Graduate School. Applications are reviewed and judged on the following:

- **Previous College Experience.** An official transcript from all institutions of higher education ever attended is required. The transcript must show dates attended, final grades, and credits earned. Applicants who attended a college/university outside the United States must have their official transcripts translated into English, by a credit evaluation service, showing final GPA scores.
- **GMAT exam (or equivalent).** LSAT or GRE could be substituted for the GMAT exam.
- **Two letters of recommendation.**
- **An essay of 200-300 words describing the applicant's motivation and goals.**
- **A Current Resume.**
- **Candidates whose Bachelor's degree was not earned in an approved English language country must submit either the TOEFL exam (minimum score of 72 internet-based or 553 paper-based) or IELTS exam (minimum band score of 6.0).**

The GMAT requirement for MSF program admission consideration at UMass Dartmouth is waived if the applicant proves, to UMass Dartmouth's satisfaction, any of the following:

- An earned baccalaureate degree (or the equivalent of a USA baccalaureate degree) in any major/discipline from an accredited college/university with a cumulative GPA of at least 3.00 on a 4.00 scale.
- An earned terminal graduate degree (PhD, MD, JD, etc.) from an accredited institution.
- Licensure in the United States as a Certified Public Accountant or Certified Financial Planner. Other similar certification programs may also qualify for this waiver at the discretion of UMass Dartmouth.
- At least five (5) years of managerial/supervisory work experience.

**Questions about credentials?**

graduate@umassd.edu  
508.999.8604 voice  
508.999.8133 fax  
umassd.edu/graduate

**To earn a degree**

MSF candidates must complete 30 credits of course work. Three foundation courses are required for those who have not taken these courses or their equivalents, previously. The foundation courses are not counted toward the degree. The MSF curriculum includes both core courses and elective courses in finance. Once enrolled in the program, candidates are expected to take all courses at UMass Dartmouth. However, up to 6 credits may be transferred into this sequence, either at the time of admission or after enrolling in the MSF program, to satisfy elective course requirements. Course waiver depends on prior course work and may be granted on a case by case basis.

**For more information**

**MSF Coordinator**  
Duong Nguyen, PhD, CFA, FRM  
dnguyen2@umassd.edu  
508.999.8070

**Please forward all credentials to:**

Office of Graduate Studies  
UMass Dartmouth  
285 Old Westport Road  
Dartmouth, MA 02747-2300

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**MSF General Finance Program**

**Curriculum Outline**

**Major Required (Core) Courses (Total courses required = 7)**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT 670</td>
<td>Financial Statement Analysis</td>
<td>3</td>
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<tr>
<td>FIN 650</td>
<td>Finance for Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>FIN 655</td>
<td>Quantitative Methods</td>
<td>3</td>
</tr>
<tr>
<td>FIN 670</td>
<td>Investment Analysis</td>
<td>3</td>
</tr>
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<td>FIN 672</td>
<td>International Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>FIN 691</td>
<td>Options, Futures, and other Derivatives</td>
<td>3</td>
</tr>
<tr>
<td>FIN 698</td>
<td>Financial Institutions Management</td>
<td>3</td>
</tr>
<tr>
<td><strong>SubTotal</strong></td>
<td># Core Credits Required</td>
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**Concentration Course Choices (Total courses required = 3) (any 3 courses)**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>FIN 675</td>
<td>Fixed Income Analysis</td>
<td>3</td>
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<tr>
<td>FIN 684</td>
<td>Finance Seminar</td>
<td>3</td>
</tr>
<tr>
<td>FIN 685</td>
<td>Mergers and Acquisitions Analysis</td>
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</tr>
<tr>
<td>FIN 686</td>
<td>Ethics in Finance</td>
<td>3</td>
</tr>
<tr>
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<td>Financial Risk Management</td>
<td>3</td>
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<td>FIN 693</td>
<td>Advanced Corporate Finance</td>
<td>3</td>
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<td>FIN 697</td>
<td>Financial Modelling</td>
<td>3</td>
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<tr>
<td>FIN 699</td>
<td>Internship/ Practicum</td>
<td>3</td>
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<td></td>
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<td></td>
<td>approved by the MSF program</td>
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</tr>
<tr>
<td></td>
<td>coordinator</td>
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<tr>
<td><strong>SubTotal</strong></td>
<td># Concentration Credits Required</td>
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**Curriculum Summary**

Total number of courses required for the degree  
10  
Total credit hours required for degree  
30  
Prerequisite or Other Additional Requirements (total of 9 credits if needed)

1. **ACT 500** (3 credits): Financial Accounting  
2. **FIN 500** (3 credits): Finance and Economics for Managers  
3. **POM 500** (3 credits): Statistical Analysis

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**MSF Quantitative Finance Concentration**

**Curriculum Outline**

**Major Required (Core) Courses (Total courses required = 7)**

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<td>3</td>
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<td>FIN 698</td>
<td>Financial Institutions Management</td>
<td>3</td>
</tr>
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</table>

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<td>3</td>
</tr>
<tr>
<td>FIN 682</td>
<td>Financial Risk Management</td>
<td>3</td>
</tr>
<tr>
<td>FIN 697</td>
<td>Financial Modelling</td>
<td>3</td>
</tr>
<tr>
<td>POM 681</td>
<td>Business Analytics and Data Mining</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Other graduate course approved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>by the program coordinator</td>
<td></td>
</tr>
<tr>
<td><strong>SubTotal</strong></td>
<td># Concentration Credits Required</td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

**Curriculum Summary**

Total number of courses required for the degree  
10  
Total credit hours required for degree  
30  
Prerequisite or Other Additional Requirements (total of 9 credits if needed)

1. **ACT 500** (3 credits): Financial Accounting  
2. **FIN 500** (3 credits): Finance and Economics for Managers  
3. **POM 500** (3 credits): Statistical Analysis

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