### MS Finance – Corporate Finance & Investments (MSFC) 2018-2019 Academic Year

#### MSFC Two-Semester Course Plan

**Preprogram Foundations Requirements**  
Online workshops begin in July (*these are in addition to required credits and do not affect GPA*)  
- FIN 510: Introduction to Finance  
- ACCT 560: Introduction to Accounting  
- ACCT 562: Financial Accounting II (Intermediate Accounting)

#### Fall Semester (12.5 required credits + electives)

<table>
<thead>
<tr>
<th>Fall A</th>
<th>Fall B</th>
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<tbody>
<tr>
<td>ACCT 503: Business Analysis/Financial Statements (1.5)</td>
<td>ACCT 503B: Adv. Business Analysis/Financial Statements (1.5)</td>
</tr>
<tr>
<td>FIN 527: Financial Markets (1.5)</td>
<td>FIN 527: Financial Markets (1.5) (if not taken in Fall A)</td>
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<tr>
<td>FIN 532: Investment Theory (1.5)</td>
<td>FIN 534B: Advanced Corporate Finance II – Financing (1.5)</td>
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<tr>
<td>FIN 534: Advanced Corporate Finance I – Valuation (1.5)</td>
<td>FIN 534B: Advanced Corporate Finance II – Financing (1.5)</td>
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<tr>
<td>FIN 553: Corporate Finance and Investments Industry Seminar (0.5)</td>
<td>FIN 534B: Advanced Corporate Finance II – Financing (1.5)</td>
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Choose one:  
- FIN 560A: Research Methods in Finance (3) (strongly recommended)  
- MEC 537: Data Analysis, Forecasting and Risk Analysis (3)

**Electives as desired* (see below)**

#### Spring Semester (10.5 required credits + electives)

<table>
<thead>
<tr>
<th>Spring A</th>
<th>Spring B</th>
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<tbody>
<tr>
<td>FIN 524: Options &amp; Futures (1.5)</td>
<td>FIN 524B: Derivative Securities (1.5)</td>
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<tr>
<td>FIN 525: Fixed Income Securities (1.5)</td>
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**Electives as desired* (see below)**

In addition to 23 required credits above, 7.5 elective credits must be completed

#### Fall Semester Electives

<table>
<thead>
<tr>
<th>FIN 500W: Venture Capital Methods (1.5)</th>
<th>FIN 500X: Venture Capital Practice (1.5)</th>
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<tbody>
<tr>
<td>FIN 538: Stochastic Foundations for Finance (1.5)</td>
<td>FIN 523B: Mergers &amp; Acquisitions (1.5)</td>
</tr>
<tr>
<td>(preq for FIN 537 &amp; FIN 539 in Spring)</td>
<td>FIN 530: International Finance (1.5)</td>
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<tr>
<td>OB 561: Negotiation &amp; Conflict Management (1.5)</td>
<td>FIN 532B: Data Analysis for Investments (1.5)</td>
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#### Spring Semester Electives

<table>
<thead>
<tr>
<th>FIN 500Y: Private Equity Methods (1.5)</th>
<th>FIN 500Z: Private Equity Practice (1.5)</th>
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</thead>
<tbody>
<tr>
<td>FIN 536: Financial Issues in Leasing (1.5)</td>
<td>FIN 523B: Mergers &amp; Acquisitions (1.5)</td>
</tr>
<tr>
<td>FIN 539: Mathematical Finance (1.5) (by faculty permission only)</td>
<td>FIN 549H: Real Estate Finance (1.5)</td>
</tr>
<tr>
<td>FIN 550D: Hedge Fund Strategies (1.5)</td>
<td>FIN 555: Risk Management &amp; Insurance (1.5)</td>
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<tr>
<td>MEC 538: Economics of the Organization (1.5)</td>
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<tr>
<td>MGT 511A: Law &amp; Business Management (1.5)</td>
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<td>MKT 523: Sales Management (1.5)</td>
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- ACCT 563: Financial Accounting III (Advanced Accounting) (3)
- FIN 500Q: Quantitative Risk Management (3) (by faculty permission only)
- FIN 537: Advanced Derivative Securities (3) (by faculty permission only)
- MEC 592: Competitive Industry Analysis & Strategic Development (3)
- MGT 562: Critical Thinking Processes & Modeling for Effective Decision Making (3)

**Total: 30.5 Credits (23 required, 7.5 elective)**

Under the flat tuition rate, students may take up to 19.5 credits in the fall and spring semesters. Additional courses are charged per-credit.

The degree requirements and policies in this document apply to MSFC students entering Washington University during the 2018-19 academic year. Every effort is made to ensure that the information is accurate and correct as of the date of publication (3/6/18). Washington University reserves the right to make changes at any time without prior notice. Therefore, this curriculum document may change from time to time without notice. The governing document at any given time is the then-current version, as published online.
MSF Corporate Finance Courses

**Summer Online Foundations Workshops**

**FIN 510 Introduction to Finance**

The main topics to be covered in this course are (1) principles of investments, (2) financial analysis of corporate projects, (3) cost of capital, and (4) capital structure and financing policies. The objective of the company is assumed to be shareholder value maximization. Shareholder value is created by earning more than the cost of capital. The cost of capital is an opportunity cost – what investors could expect to earn on comparable investments in the financial markets. To understand the cost of capital, we need to understand the viewpoint of investors. Furthermore, to understand whether a project earns more than the cost of capital, we need to know how to estimate and discount project cash flows. So, the first three topics are closely connected. The main question in the fourth topic is whether we can create shareholder value through the financial structure of the firm. For example, we will ask whether we can lower the cost of capital by financing with debt instead of equity, or vice versa.

**ACCT 560 Introduction to Accounting**

In this course, we will study the three fundamental financial accounting issues, including (1) recognition, (2) measurement/valuation, and (3) classification/disclosure and consider how business transactions are reflected on the financial statements using generally accepted accounting principles (GAAP). We will cover the four primary financial statements (balance sheet, income statement, statement of stockholders’ equity, and statement of cash flows), the supporting footnotes to these statements, and several reports (annual reports, proxy statements, and press releases). The course incorporates both a preparer’s perspective (i.e., GAAP requirements for recording and presenting financial information) and a user’s perspective (i.e., how an investor or analyst can interpret and use financial statement information).

**ACCT 562 Financial Accounting II (Intermediate Accounting)**

Primary subject matter includes asset and liability valuation and income measurement addressed at a deeper level than in introductory financial accounting. Recent additions to the professional accounting literature and the conceptual underpinnings of corporate financial reporting are emphasized, and articles from the popular business press are used to illustrate the factors that motivate corporate reporting decisions. Financial reporting issues related to a variety of topics not covered in earlier accounting coursework, such as segment reporting, securitization, and convertible securities, are introduced.

**Fall Semester**

**ACCT 503 Business Analysis Using Financial Statements**

In this course we use concepts from financial accounting, finance, and strategy to develop models used by financial analysts in valuing equity securities (although we will focus on equity valuation, our approach is applicable to issues faced by managers considering investment opportunities). We will discuss/review a variety of models, including the dividend model, the free cash flow model, the method of comparables/multiples, and the asset-based valuation model. These more traditional models will be contrasted with the residual income valuation model, a relatively recent valuation innovation. 1.5 credits.

**ACCT 503B Advanced Business Analysis Using Financial Statements**

This course builds on ACCT 503. We investigate approaches to forecasting future value drivers of firms and then the preparation of pro forma financial statements based on these forecasts. The concepts will be applied by having students prepare an equity analyst report. The report is the communications of evidence collected from a systematic study of a firm, its environment, and its future prospects to justify a recommendation. Prerequisite: ACCT 503. 1.5 credits.

**FIN 523B Mergers & Acquisitions**

The course will provide an in depth view of the theory and empirical regularities of various corporate control transactions. Specifically, we will discuss valuation of target firms, possible sources of value creation, various motives for mergers, tax consequences of mergers, legal issues in mergers, financing an acquisition, defensive tactics in hostile takeovers, going-private transactions and bidding behavior of acquirers. The method of instruction is a mix of lecture and case analysis. Prerequisite: FIN 534. 1.5 credits.

**FIN 527 Financial Markets**

This course will facilitate further learning in the finance track by providing insights into various financial markets, financial institutions, associated market participants, select representative transactions and industry conventions. Students will examine the role of regulators, rating agencies, commercial and investment banks, and investors in the debt, equity and derivatives markets. In addition, in the context of the Financial Crisis, the role of regulation, monetary policy, leverage and human behavior will be discussed as possible root causes of the crisis with an emphasis on the various market failures in specific markets and their impact on market participants. Lastly, the role of revised regulations and the future of financial innovation will be debated. 1.5 credits.
FIN 530 International Finance

Measuring and hedging exposures to exchange rate fluctuations is a central topic of this course. The relationships among spot and forward exchange rates, interest rates, and inflation rates are described. Additional topics include capital budgeting for international projects, international capital markets, and international portfolio diversification. 1.5 credits.

FIN 532 Investment Theory

A course in the theory of risk and return in capital markets. Topics covered correspond to those which are covered in the CFA level 1 exam. We will cover the CAPM and APT models of asset pricing and will discuss various measures of mutual fund performance evaluation which arise from these models. We will discuss interest rate determination and also introduce the concepts of price and reinvestment risk in fixed income securities. 1.5 credits.

FIN 532B Data Analysis for Investments

The objective of this course is to obtain an in-depth understanding of some of the major empirical issues in investments. Based on recent research articles and cases, students are required to learn the facts, theories and the associated statistical tools to analyze financial data. The topics for this course include models of stock returns, Bayesian and shrinkage estimations for expected returns and covariances, multifactor asset pricing models, GARCH models, principal components, asset allocation, stock screening, predictability, performance evaluation, anomalies, limits to arbitrage and behavioral finance. Prerequisite: FIN 532. 1.5 credits.

FIN 533 Valuing Strategic Corporate Investments

The objective is to obtain both an in-depth understanding of the real option theory and the associated implementation skills in real-world applications. The theoretical tools are binomial models and Monte Carlo simulations. The application topics cover all types of typical real options, cases of leasing, R&D, take-over, market expansion, growth values, dot-coms, staged investments, multiple project uncertainties, ranging from standard European and American options to compound and rainbow options. 1.5 credits.

FIN 534 Advanced Corporate Finance I – Valuation

This course considers a broad range of issues faced by corporate financial managers with respect to the valuation of projects, divisions, and entire companies. The prime focus will be on assessing the profitability of different business alternatives in a forward-looking sense. It will explicitly consider the impact of financing decisions on the valuation of business alternatives. Other topics covered include an examination of EVA as both a valuation and performance measurement tool, and a brief introduction to Real Options as an alternative to discounted cash flow analysis. The course is designed to be "hands-on," and will heavily focus on direct applications of the theory and the individual development of spreadsheet modeling skills. Students who successfully complete the course should possess a set of cutting-edge valuation skills. 1.5 credits.

FIN 534B Advanced Corporate Finance II – Financing

This course considers a broad range of issues faced by corporate financial managers with respect to the financing of investment opportunities. In this course, we turn to the right-hand side of the balance sheet as a direct follow up to the skills acquired in the Advanced Corporate Finance I - Valuation, a course that focused on the left-hand side of the balance sheet. The course is designed to be "hands-on," and we will heavily focus on direct applications of the theory of financing to business practice. To that end, we will cover topics related to the valuation of bond and convertible securities, estimating the costs of financial distress, the reorganization of firms in financial distress, deriving an optimal capital structure, and the effects of management stock option grants on valuation. Prerequisite: FIN 534. 1.5 credits.

FIN 534C Advanced Corporate Finance III – Corporate Financial Strategy

This course addresses advanced valuation topics, and applies both theory and practical valuation methods to value real world companies-instead of case studies. You will be valuing foreign and U.S. companies in various industries such as banking, industrials, mining, and information technology. This course assumes that you have basic valuation knowledge and exposes you to the complexities involved in performing real-world valuations, and the myriad of issues that practitioners must address. Prerequisite: FIN 534 1.5 credits.

FIN 550C Endowments, Foundations & Philanthropy

The course will cover topics in endowment and foundation governance, grant making and investment management as well as fundamentals of philanthropic giving at both the foundation and personal levels. Topics covered include investment policy statements, spending policies, portfolio construction, giving priorities, socially-responsible / environmental-social-governance investing, impact investing, program related investments, and tax considerations. 1.5 credits.

FIN 550E Behavioral Finance

The course will cover topics in behavioral finance, which is a field of finance applying psychology to decisions of investors and corporate managers. Topics covered include prospect theory and non-expected utility preferences, behavioral biases and heuristics, limits to arbitrage, anomalies and their behavioral explanations, bubbles and their behavioral explanations, behavioral biases of individual vs. professional traders, and behavioral corporate finance. The course will cover theoretical aspects, empirical and experimental evidence, as well as practical implications. Prerequisite: FIN 532 or instructor's approval. 1.5 credits.

FIN 553 Corporate Finance and Investments Industry Seminar

This course is designed to expose SMP and MBA students to the language, issues, and skill sets necessary for careers in corporate finance, investment banking, private equity and asset management. The primary intent of this course is to offer a detailed introduction to financial markets, as well as those people, companies and other institutions that participate in it as providers of capital, users of capital or the players that work to intermediate between these two. 0.5 credits.
FIN 560A Research Methods in Finance

The course is designed to prepare students for independent research in finance by exploring methods and techniques in a manner that will allow the students to implement them correctly and efficiently. The curriculum will emphasize practical applications of empirical methods used in financial research and how to implement them. Students in the course will learn empirical methods in corporate finance and asset pricing; obtain basic knowledge and familiarity of the databases used in common finance research; get exposure to recent research in finance which applies the methods covered; and learn how to implement the methods covered using relevant programming languages. 3 credits.

MEC 537 Data Analysis, Forecasting & Risk Analysis

Course develops the methods and techniques of econometrics that are of particular relevance to students of business and economics. A range of models, namely single equation regression models, time series models and models for discrete response data are studied. The purpose of building these models is described within the context of aggregate data, and micro data at the level of firms and individuals. Procedures to evaluate the estimated models are discussed, and emphasis is placed on the interpretation of results and the forecasting of future observations. Students are expected to complete an individual (non-group) project in which the technique developed in the course are applied to real world problems. The course should be valuable for a variety of students including those with primary interest in finance, marketing, operations, and accounting. 3 credits.

### Spring Semester

ACCT 563 Financial Accounting III (Advanced Accounting)

Accounting issues related to three major topical areas are covered. The first half of the course is dedicated to intercorporate investment activity and related reporting issues, including business combinations, preparation of consolidated financial statements, variable interest entities and other complex structures and transactions. Transactions and investments involving foreign currencies and foreign subsidiaries, and the extensive financial reporting issues related to derivatives round out the second half of the course. Numerous recent additions to the professional literature are integrated into the course. 3 credits.

FIN 500Y Private Equity Methods

This course will provide the student with an understanding of the basic terminology, due diligence and analytical methodologies critical to evaluating Private Equity investments. The course will also cover the history of Private Equity and the different roles of Private Equity – growth capital, LBO / MBO, Roll-Up, etc. in the evolution of the firm. Private Equity funds in the context of the overall market (strategic vs. financial acquirers) will be discussed as will be the role of leveraged lending and bank financing of financial sponsors. Private Equity as an investment and its role in portfolio construction will be analyzed. Finally, the legal structure of Private Equity funds in the context of firm control and governance will be reviewed. 1.5 credits.

FIN 500Z Private Equity Practice

This course is the capstone for students interested in pursuing careers in private equity. Students will develop practical skills for investing in private companies. Students will partner with professionals in the St. Louis community to perform various activities, including transaction sourcing, evaluating investment opportunities and, where appropriate, negotiating, arranging financing, and closing investments. The course also heavily relies on bringing in professionals from the local community to provide real-world perspectives on private equity investing. Prerequisite: FIN 500Y. 1.5 credits.

FIN 523B Mergers & Acquisitions

The course will provide an in depth view of the theory and empirical regularities of various corporate control transactions. Specifically, we will discuss valuation of target firms, possible sources of value creation, various motives for mergers, tax consequences of mergers, legal issues in mergers, financing an acquisition, defensive tactics in hostile takeovers, going-private transactions and bidding behavior of acquirers. The method of instruction is a mix of lecture and case analysis. Prerequisite: FIN 534. 1.5 credits.

FIN 524 Options & Futures

Focuses on futures with an introduction to options. Discusses forward and futures pricing, and the use of various futures contracts to hedge commodity price risk, interest risk, currency risk, stock portfolio risk, and other risk exposures. Provides both binomial tree and Black-Scholes models for option valuation. 1.5 credits.

FIN 524B Derivative Securities

Provides an in-depth analysis of valuation and trading strategies for options and other derivative securities which have applications across areas of finance such as hedging, swaps, convertible claims, mortgage payments, index arbitrage, insurance, capital budgeting and corporate decision making, and are responsible for many new innovations and developments of the financial markets. Prerequisites: FIN 524. 1.5 credits.

FIN 525 Fixed Income Securities

This course analyzes investment in bonds and related fixed-income instruments. Major topics are bonds, interest rate risk, and derivative securities. Bond topics include interest rate compounding conventions, yield curves, and forward interest rates. Risk analysis covers duration, convexity, and immunization. Derivative securities are analyzed using an option-theoretic approach to valuing interest rate contingent claims. Prerequisites: FIN 524 and FIN 524B. 1.5 credits.
FIN 528 Investments Praxis

In this course students serve as managers of a portfolio, the Investment Praxis Fund, which is owned by the school. Students will analyze investment opportunities in various industries and present recommendations to the class for possible purchases or sales of securities. Students must demonstrate that their investment decisions are consistent with the style and objectives of the fund. Valuation tools and financial statement analysis are emphasized as part of a thorough analysis. The course will emphasize contact with investment professionals such as portfolio managers, securities traders, consultants, custodians, and plan sponsors. At the end of the semester the students will report on their performance to the advisory board of the fund which is composed of University financial officers and outside investment professionals. 3 credits.

FIN 536/ACCT 507 Financial Issues in Leasing

This course is devoted to studying the various elements that are involved in identifying leasing opportunities and structuring a lease. Topics covered include accounting and tax issues related to leases, the legal and financial structure of a lease, options embedded in lease agreements, and the marketing and negotiation of leases. 1.5 credits.

FIN 549H Special Topics: Real Estate Finance

This course provides a broad introduction to real estate finance and investments. Topics include both equity and debt. We begin with an overview of real estate markets in the United States. On the equity side students will be introduced to the fundamentals of real estate financial analysis, including pro forma analysis and cash flow models, and elements of mortgage financing and taxation. Ownership structures, including individual, corporate, partnerships and REITS will also be covered. On the debt side, we examine a number of financing tools in the context of the evolution of the secondary mortgage market, both residential and commercial. Additional topics related to real estate finance are covered in Fixed Income Securities (FIN 525). 1.5 credits.

FIN 550D Hedge Fund Strategies

This course provides both an overview of hedge funds and an in-depth analysis of their trading strategies. Topics covered include structure, incentives, and performance evaluation of hedge funds, regulatory and taxation aspects of hedge funds, common trading strategies of hedge funds (e.g., market neutral, global macro, forex, activism, and event driven), and the academic evidence on the performance and influence of hedge funds. Prerequisite: FIN 532 or instructor's approval. 1.5 credits.

FIN 555 Risk Management & Insurance

This course will provide an introduction to risk management and insurance. We will explore enterprise risk management broadly and understand what risk is, and how risk can be managed and or mitigated. We will understand the different kinds of risk and the difference between insurance and hedging. We will study the various insurance markets and the basics of how they operate. We will especially focus on the issues of risk management and insurance from an insurance issuer's perspective and from a corporate risk manager's perspective. We will also review the insurance operations of Berkshire Hathaway to understand the operations of a diversified insurance company and of Allstate Corporation and State Farm Insurance as we review the basics of auto and homeowners insurance respectively. 1.5 credits.

MGT 501 Management Center Practicum

Students work in four-person teams on consulting projects, applying insights from their course work to real-world business problems under faculty supervision. Each student is expected to spend about 150 hours on the project. Grades are based on the quality of the final written and oral reports, as determined by the faculty supervisor. Students are paid a small gratuity, the amount, depending on the quality of the work. 3 credits.

MGT 511A Law & Business Management

We will review different rules of substantive law which affect the conduct of individuals and businesses. We will analyze different legal theories and rules of substantive law which regulate the conduct of individuals and businesses and which impose liability for damages on individuals and business entities when those rules are violated. We will survey basic rules of criminal law, intentional torts, and negligence. We will next focus on the rules affecting the making and performance of contracts, and the liability which results from breach of contractual relationships. This will include general contract law, as well as specific rules that exist in the sale of goods and merchandise, and in the purchase, ownership and sale of real property. In addition, we will also analyze and compare the choices available for dispute resolution, including mediation, arbitration, and trial in court. 1.5 credits.

MGT 550F Critical Thinking Processes and Modeling for Effective Decision Making

Critical thinking is the cornerstone of effective decision-making. This course will introduce students to a variety of tools that will enhance their critical thinking skills and ultimately their ability to make effective decisions. Students will gain practice in assessing critical thinking by others, which will help them develop a plan for ongoing advancement of their own critical thinking skills. The course has the following objectives: (a) to introduce students to the science of fact based, data driven, decision making; (b) to expose students to different approaches, support tools, and analytical methods for decision making; (c) to enhance and reinforce students' critical thinking skills and their ability to intelligently use information; (d) to develop, integrate and reinforce students' modeling skills (often based on spreadsheet usage) by using such skills in a variety of decision-making-oriented applications; and (e) to introduce students to a process for team decision making. These objectives will be facilitated through the three key quantitative modeling tools taught in this course, which are: (1) decision analysis; (2) simulation for risk-analysis and modeling uncertainty; and (3) optimization tools and constrained resource allocation. 3 credits.
MEC 538 Economics of the Organization

Business organizations are complex systems with mutually dependent parts. Understanding the economic factors that influence how the organizational pieces function together can be a daunting task. The goal of this course is to provide an economic framework for the analysis of a variety of challenges that face businesses, both at the organizational and individual employee levels. In this course we will consider what economics can say about the efficient organization of firms and businesses, and provides an economic approach to solving organizational and incentive problems. The aim of this mini is to describing general organizational issues facing firms, such as incentive problems arising from adverse selection, moral hazard, and agency. We consider alternative solutions to these problems and then apply these lessons to readings and cases. 1.5 credits.

MEC 592 Competitive Industry Analysis & Strategic Development

Uses economic and game-theoretic models to analyze behavior of firms. Focus will be split between evaluating the competitive environment within industries and developing competitive strategies that are responsive to specific competitive forces facing individual firms. Topics typically covered include models of price and quantity competition, barriers to entry, commitment strategies and credible threats, product differentiation, vertical integration, research and development, and patenting strategies. 3 credits.

MKT 523 Sales Management

Sales management refers to all activities, processes, and decisions involved in managing the sales function in an organization. Effective and efficient sales management is an indispensable component of a marketing strategy especially in business-to-business markets. Companies make significant investments in their sales force as it is the public face of the company, plays a major role in sales creation, and is entrusted with the most important corporate asset - the customer. Primarily through case discussion and industry expert sessions, this course will focus on developing a repertoire of analytic and conceptual skills and emphasize a decision orientation. Topics covered will include sizing, structuring, designing sales territories, recruiting, motivating, compensating and performance management of a professional sales force. There are no prerequisites. 1.5 credits.