# MS Business Analytics - Financial Technology Track (MSFTTA)
## 2019-2020 Academic Year

## List of Courses by Semester

### Preprogram Foundation Requirements
Preparatory work begins in July/August, is in addition to required credits and does not affect GPA.

**Required:**
- MKT 500V: Basics of R Programming (0.5)

Choose at least one of:
- MKT 500R: Basics of Statistics Using SPSS (0.5)
- MGT 574: Basics of Stata programming (0.5)
- MGT 573: Basics of SAS programming (0.5)

### Fall Semester (12 core + 3 Track Required = 15 credits)

#### Fall A

<table>
<thead>
<tr>
<th>Required:</th>
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<tbody>
<tr>
<td>MGT 560G: Database Design and SQL (1.5)</td>
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</table>

**Required:**
- MKT 500S: Predictive Analytics for Business Decision-Making (3)
- OMM 561: Introduction to Python and Data Science (3)
- MGT 560F: Professional Business Communication (1.5)

**Track Required:**
- FIN 5203: Financial Management (3)

#### Fall B

<table>
<thead>
<tr>
<th>Required:</th>
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<tbody>
<tr>
<td>MGT 560M: Big Data and Cloud Computing (1.5)</td>
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<tr>
<td>OMM 500N: Prescriptive Analytics (1.5)</td>
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**Required:**
- MGT 560N: Introduction to Cybersecurity (1.5)

### Spring Semester (6 core + 9 Track Required + 1.5 electives (see page 2) = 16.5 credits)

#### Spring A

<table>
<thead>
<tr>
<th>Track Required:</th>
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<tbody>
<tr>
<td>FIN 534: Advanced Corporate Finance I-Valuation (1.5)</td>
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<tr>
<td>FIN 532: Investment Theory (1.5)</td>
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<tr>
<td>FIN 524: Options and Futures (1.5)</td>
</tr>
<tr>
<td>FIN 525: Fixed Income Securities (1.5)</td>
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**Required:**
- MKT 500W: Causal Inference (3)

**Track required:**
- FIN 550F: Financial Technology (FinTech) – Methods and Practice (3)

#### Spring B

<table>
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<th>Required:</th>
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<tbody>
<tr>
<td>MGT 561: Text Mining (1.5)</td>
</tr>
<tr>
<td>MGT 560N: Introduction to Cybersecurity (1.5)</td>
</tr>
</tbody>
</table>

**Required:**
- MGT 500W: Causal Inference (3)

**Track required:**
- FIN 550F: Financial Technology (FinTech) – Methods and Practice (3)

### Final Fall Semester (6 Track required + 1.5 electives (see page 2) = 7.5 credits)

#### Fall A

<table>
<thead>
<tr>
<th>Track Required:</th>
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<tbody>
<tr>
<td>MGT 501: Management Center Practicum (or Internship) (3)**</td>
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<tr>
<td>FIN 550F: Seminar in Financial Technology (3)**</td>
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#### Fall B

<table>
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<tbody>
<tr>
<td>MGT 501: Management Center Practicum (or Internship) (3)**</td>
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<tr>
<td>FIN 550F: Seminar in Financial Technology (3)**</td>
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</table>

## Total 39 credits: 18 common core, 13.5 track required, 7.5 electives
Core Analytics Courses
A total of 18 credits are common to all tracks and build your analytics knowledge base.

The first fall semester introduces key concepts and tools including **Database Design and SQL** and **Big Data and Cloud Computing**, as well as:

- **Intro to Python and Data Science** introduces programming language to acquire, clean, analyze, and visualize data (descriptive analytics) for reporting and complex optimization.
- **Predictive Analytics** covers advanced analytic techniques such as neural networks and stochastic gradient boosting to convert raw and messy business data into robust predictions of future customer behavior or critical organizational elements.
- **Prescriptive Analytics** builds upon the descriptive and predictive analytics course work through the use of optimization models and software tools to suggest decision options for a wide variety of business decisions (course is called Optimization for Business in the MSAA track).

In addition, Managerial Communication introduces students to fundamental best practices in business writing and business speaking.

Core requirements conclude in the spring semester with an **Introduction to Cybersecurity** and two advanced analytic topics:

- **Causal Inference** teaches statistical and experimental methods to identify causal relations among data sets and reject prescriptive options based on biased samples or reverse causality.
- **Text Mining** provides techniques, algorithms, and tools for collecting, organizing, summarizing, and analyzing textual data for topic and sentiment analysis and predictive modeling.

**Electives for MS Business Analytics in Financial Technology:**

<table>
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<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>FIN560A</td>
<td>Research Methods in Finance</td>
<td>3</td>
</tr>
<tr>
<td>MEC537</td>
<td>Data Analysis, Forecasting, and Risk Analysis</td>
<td>3</td>
</tr>
<tr>
<td>FIN528</td>
<td>Investment Praxis</td>
<td>3</td>
</tr>
<tr>
<td>FIN524B</td>
<td>Derivative Securities</td>
<td>1.5</td>
</tr>
<tr>
<td>FIN534B</td>
<td>Advanced Corporate Finance II</td>
<td>1.5</td>
</tr>
<tr>
<td>FIN550E</td>
<td>Behavioral Finance</td>
<td>1.5</td>
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<tr>
<td>FIN550B</td>
<td>Wealth Management – Practice</td>
<td>1.5</td>
</tr>
<tr>
<td>FIN550C</td>
<td>Endowments, Foundations, and Philanthropy</td>
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<tr>
<td>FIN 523B</td>
<td>Mergers &amp; Acquisitions</td>
<td>1.5</td>
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<tr>
<td>FIN 527</td>
<td>Financial Markets</td>
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<tr>
<td>FIN 530</td>
<td>International Finance</td>
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<tr>
<td>FIN 532B</td>
<td>Data Analysis for Investments</td>
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<tr>
<td>FIN 533</td>
<td>Valuing Strategic Corporate Investments</td>
<td>1.5</td>
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<tr>
<td>FIN 534C</td>
<td>Advanced Corporate Finance III</td>
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<tr>
<td>FIN 536</td>
<td>Financial Issues in Leasing</td>
<td>1.5</td>
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<tr>
<td>FIN 549H</td>
<td>Real Estate Finance</td>
<td>1.5</td>
</tr>
<tr>
<td>MGT 511A</td>
<td>Law &amp; Business Management</td>
<td>1.5</td>
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<tr>
<td>FIN500W</td>
<td>Venture Capital – Methods</td>
<td>1.5</td>
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<tr>
<td>FIN500X</td>
<td>Venture Capital Practice</td>
<td>1.5</td>
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<tr>
<td>FIN500Y</td>
<td>Private Equity Methods</td>
<td>1.5</td>
</tr>
<tr>
<td>FIN500Z</td>
<td>Private Equity Practice</td>
<td>1.5</td>
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*All letter graded courses, count towards degree and GPA calculation. Math and some CSE courses can be taken Pass/Fail and count towards degree.*

**Note:** Only 12 hours of approved CSE courses may count toward degree requirements.

**Note to International students:** Additional English courses may be required or waived upon arrival. If taken, these courses are over and above required credits, are graded on a pass/fail basis, and do not count towards a student’s GPA calculation.

Students may take up to 19.5 credits of business coursework in the fall and spring semesters under the flat tuition rate.

The degree requirements and policies in this document apply to MSCA students entering Washington University during the 2019-20 academic year. Every effort is made to ensure that the information is accurate and correct as of the date of publication (11/26/18). 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.
Summer Foundations Courses – Required:

**MKT 500V Basics of R Programming**

R has become the tool of choice for many data science and customer analytics professionals in every industry and field. It is not surprising to see a requirement for being familiar with R in job descriptions. R is very flexible in carry out data analysis. Part of the benefit of being open source is that many programmers/researchers are constantly introducing new statistical analysis tools into R through R packages. Given all the benefits, R does have a relatively steeper learning curve. To better prepare MSCA students, we introduce this 2 day introduction to R programming course. This class will help you master the basics of R. We will start from the very beginning - installation of the program. No prior knowledge in programming is required. Through in class demonstration and lots of hands-on practice, by the end of the second day, you will have the chance to undertake your own data analysis and solve relevant business problems using R. 0.5 Credits. Graded Pass/Fail.

**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).

Summer Foundations Courses – Choose at least one of the following:

**MKT 500R Basics of Statistics Using SPSS**

This foundational course, which is a required course for students in the MSCA program, will cover material that serves as useful preparation for courses offered in the Olin curriculum that rely extensively on applied statistical concepts (e.g., marketing research, advanced marketing research, database marketing, data analysis for brand management etc.). The course will provide students with both an overview of basic statistical concepts and a practical grasp of statistical analysis. Students will be trained to use SPSS, a popular statistical software package, in order to perform the statistical analysis. The course will also cover interpretation of results. 0.5 Credits. Graded Pass/Fail.

**MGT 573 Basics of SAS Programming**

Statistics using SAS serves as a technical basis for research and data analysis. This course will provide students with an overview of statistical knowledge and with a good practice of analysis techniques. Students will be trained to use SAS, one of the most commonly used tools in commercial analytics markets, to analyze data and interpret results. The course aims to prepare students for more advanced courses in data analytics. Graded pass/fail.
MGT 574 Basics of Stata Programming

As one of the most popular statistics software packages, Stata has served as an essential tool of data science in every industry and academia. The goals of the course are to better prepare students for success in future courses and careers. Students will be trained to obtain necessary technical skills of using Stata by the end of this two-day course. The introduction of Stata will be from the very beginning, and therefore there is no prerequisite required. Basic statistics foundations will be reviewed to facilitate the goals of the course. Graded pass/fail.

Required Core Courses

MGT 560G  Database Design and SQL

Databases are at the foundation of every organization's information strategy. Understanding the structure of databases and mastering the tools to analyze data are essential skills in any role. The tools developed in this course assist students in implementing a company's data management strategy and developing well-grounded analytical recommendations. In this course, we focus on understanding how data is structured in relational databases. With vast amounts of data available, from disparate sources, effective organization of the data is essential to its utilization. To complement this, we utilize SQL (Structured Query Language) as the primary tool to extract data for managerial reports and for advanced analytical models. Practical experience with current relational database software is developed throughout the course. This course is required for MS/CA students and priority will be given to SMP students. 1.5 Credits.

MGT 560M: Big Data and Cloud Computing

The growth in available data is a challenge to many companies. This presents an opportunity for companies to conquer the vast and various data available to them. The growth in data includes traditional structured data, as well as unstructured data created by both people and machines. It is essential for analysts to be comfortable in the new technologies and tools that are being developed to store, retrieve, analyze, and report, using the vast data resources available. This course introduces students to the technologies currently deployed to overcome the challenges of Big Data. Prerequisite: MGT 560G.

OMM 500N  Prescriptive Analytics

This course covers optimization models and tools as they apply to the design and analysis of supply chains. Production planning, distribution, network design, and revenue management problems are covered using the methods of linear, non-linear, and integer programming. Upon successful completion of this course, students will demonstrate competency in formulating and solving supply chain optimization models of real-life complexity using state-of-the-art software. They will become proficient with industrial strength software tools like AMPL and Gurobi alongside Excel's Solver. The course emphasizes proficiency in model-building and using software tools rather than theory. 1.5 Credits

MGT 560F  Professional Business Communication

Communication is the process of sending and receiving messages, however, communication is effective only when the message is understood and when it stimulates action or encourages the
receiver to think in a new way. This course will introduce students to fundamental best practices in business writing and business speaking that will ensure effective communication. Students will participate in activities that will develop professional business communication skills in both writing and speaking. These will include: preparing, writing and delivering presentations, composing clear concise business messages in a variety of formats, understanding emotional intelligence to reach the audience and utilizing critical thinking as a basis for communication strategies. 1.5 Credits.

**MKT 500S  Predictive Analytics for Business Decision-Making**

Predictive Analytics deals with the employment of formal learning from business experience, using business data, to predict the future behavior of customers or other critical organizational elements in order to drive better business decisions. This course emphasizes data situations that students are likely to face in marketing, finance, manufacturing and consulting jobs. Students will analyze real-world business datasets using various advanced analytic techniques such as logistic regression, decision trees, neural networks, stochastic gradient boosting, MARSplines, Ensembles, Clustering, Associations etc. The focus of the course lies in the conversion of raw and messy business data in to robust actionable predictions for decision-making. 3 credits.

**OMM 561  Introduction to Python and Data Science**

This is a 3-credit course offered to MSBA students. It provides students the necessary skill set to extract reliable insights from large datasets prevalent in various business applications, such as supply chain management, marketplace operations, healthcare analytics and financial engineering, using Python. In this course, students will develop basic tools to understand Python programs and implement data processing pipelines using Python. In particular, students will learn how to acquire, clean, analyze and visualize data in Python, which they will then use to improve decision-making processes. Throughout the course, students will use the Python programming language, which is very effective for data manipulation, reporting, and complex optimization. Topics covered include introduction to Python programming, data acquisition and cleaning, data manipulation, current multi-source data collection technology used in practice, basic data visualization using Matplotlib, ggplot2 and Bokeh.

**MGT 561 Text Mining**

Consumers and companies constantly generate large amounts of unstructured or lightly structured texts on the web and offline: exchanges of consumer opinions on products and services on social media, transcripts of phone conversations with customer representatives, open-ended surveys, etc. By employing text analytics, businesses can derive at scale valuable insights into consumer attitudes to brands, competitive landscape, and customer relationships, among other applications. This course introduces students to the methods of mining, organizing, summarizing, and analyzing textual data with the objective of driving business decision-making.

In particular, the course will cover the following substantive topics:
- Sources of business-relevant text data and web crawling;
- Topic analysis;
- Sentiment analysis;
- Use of text in predictive modeling (churn analysis, predicting CTR with search terms);
The focus of the course is on understanding and hands-on implementation of relevant algorithms and techniques, but the course will provide the opportunity to use a number of (open-source) software tools.

**MGT 560N Introduction to Cybersecurity**

This course covers a broad range of cyber security terms, definitions, perspectives, concepts, and current trends with a focus on managing risk and the use of information and cyber security as business enablers. Students will complete a cybersecurity analytics-related project as part of the coursework.

**MGT 500W Causal Inference**

This course introduces students to causal inference. The advance in information technology has given an enormous amount of valuable data to businesses. Data analysts and data scientists have become the cool kids due to high demand in data talents. In the meantime, however, artificial intelligence is getting better at finding correlational patterns in data. This means that AI may even replace some tasks performed by data scientists in the coming years.

The good news is that good data-driven decision making often goes beyond discovering correlations in the data. In particular, making the right prescriptive decisions often requires managers to tease out the causal relationship(s) between the prescriptions and outcomes of interest. Artificial intelligence has yet to show such abilities. Therefore, mastering causal inference is likely to become more rewarding over time as AI continues to complement human judgement with quick data analyses at a low cost.

Throughout the course, we will go over many examples of why understanding causal relationships is important. Spoiler alert: in one example, Lewis, Rao, and Reiley (2012) find that a naïve estimation could show that advertisement leads to an 870%--1,200% increase in consumers’ likelihood of search for the advertised brand, while the true causal effect is 0. Imagine how disastrous it would be if companies make advertising decisions based on false causal inferences!

Our goals in the course are

- Use proper statistical tools to tease out the deterministic process that have generated the data in the presence of randomness.
- Become skeptical about claims of causality. You should be able to give alternative data generating processes that could have generated the same data.
- Understand that observational data come from agents’ decisions, and that these decisions could lead to biased samples.
- Understand omitted variable bias and reverse causality
- Design and implement various statistical and experimental methods of addressing the basic causal-inference problem using statistical software.
- Dig deeper into the mechanisms (decision trees) that yield the causal relations.
- Articulate analyses in presentations.

3 Credits
MKT 577  Marketing Strategy

Marketing strategic decisions require long-term planning and are often costly to change once implemented. They often involve more than one marketing mix variable (price, advertising and other promotions) that have to be consistent with a firm’s core competencies, with the objective of establishing sustainable competitive advantages. A good strategic planning requires careful analysis of customers and competitors in the industry, identifying a feasible set of options and deciding on a course of actions. With the development of the information technology nowadays, firms have collected valuable market data, either by themselves or from third-party data providers. The biggest question for most firms, however, is how to use these data to help make strategic decisions. The objective of this capstone course is to develop a comprehensive framework to help understand the strategic situations of firms and the trade-off involved in decision-making. It will also provide students a comprehensive knowledge of using analytical skills to solve business problems. We will explore the importance of CRM and how to use customer analysis to make marketing decisions. Other topics including competitor analysis, STP, price competition, product and entry strategies will also be covered. 3.0 credits.

Required Track Courses

FIN 5203  Financial Management

Students will learn in this class how the decisions of a company affect shareholder value and what decisions can increase it. To understand the perspectives of shareholders, we will study basic principles of investing: time value of money, valuation of debt and equity securities, discounted cash flow as a foundation for stock prices, the impacts of diversification and leverage on portfolio risk, the relationship between risk and expected return in securities markets, and capital market efficiency. We will use these principles to analyze capital investment decisions by estimating cash flows and discounting them at the appropriate cost of capital. We will also study how shareholder value is affected by a firm's financing decisions, such as the choice of using debt or equity capital.

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 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 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 550F Financial Technology – Methods and Practice**

This course is offered to MSA students in the FinTech track. The course will provide an overview of financial technology and will cover specific topics in this area. Topics covered include data-driven credit modeling, crypto currencies, digital wallets and blockchains, smart contracts, robo advising, high-frequency trading, crowd funding, and peer-to-peer lending. The course will also discuss regulatory aspects of FinTech. The course will cover different methods as well as practical applications. 3 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 only eligible to participate in 1 Practicum Course per semester, if selected. PREREQUISITES: You must apply for Practicum projects. Students are notified when projects are available.

**FIN 550F Seminar in Financial Technology**

This course is offered to MSA students in the FinTech track. The course will provide students with an opportunity to delve deep into one aspect of financial technology and write an extensive paper on this topic. The paper needs to include an analytical component and may be either a research paper analyzing data and testing some hypotheses related to financial technology or an in-depth case study of a FinTech company or technology and their implications. Other topics may also be considered with the instructor's approval. 3 credits.

**Electives**

**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 and Risk Analysis**
This course presents a modern and contemporary coverage of several econometric models that are used for the analysis and forecasting of business data. The basic building blocks for the analysis are regression time series models. Broad coverage of non-seasonal and seasonal ARIMA models is included. The important family of ARCH-GARCH models, used to represent changing volatility, are also covered in detail. These models are widely used in option pricing and in other financial applications. The course includes some extensions of these models to multivariable problems. Students are exposed to numerous real data sets in class and in assignments. All the models are analyzed with a popular econometrics software package that is employed in business. A group project is required. 3 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 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 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 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 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 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 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 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 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 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.

**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.

**FIN 500W Venture Capital Methods**

This course provides basic terminology and tools used in evaluation of early-stage venture investing. The course will also cover the history of venture capital and discuss the different strategies that a venture capital firm could utilize. The course will use case studies and outside speakers to provide overviews of certain aspects of the venture capital industry including investment strategies and VC firm operations. Note: Graduate Business Master Students only. 1.5 credits

**FIN 500X Venture Capital Practice**

This course is the capstone for students interested in early stage investing. The course objective is to develop practical skills for angel and early-stage investing in private companies. Students will partner with professional investors in the St. Louis community to perform various activities, including finding
deals, performing evaluations of investment opportunities, and where appropriate negotiating, arranging financing, and closing investments. The course also relies on bringing in investment professionals from the local community to provide real-world perspective on early stage investing. PREREQ: Venture Capital Methods and instructor approval 1.5 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.