FINANCE AND ANALYTICS

FACULTY

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FINANCE AND ANALYTICS

Requirements for the Majors offered by the Finance and Analytics Department. Students complete the business foundation courses and a major in Business Data Science or Finance. No grade below C- will be accepted to fulfill major requirements or in any foundation course.

Double-counting restriction: no student may have more than one major in the Sigmund Weis School of Business.

Business Foundation Courses

Year 1

4 or 2	MGMT-102 Global Business Perspectives or MGMT-138 Fundamentals of Business
4	ECON-201 Principles of Macroeconomics
4	ECON-202 Principles of Microeconomics
4	MGMT-202 Business Statistics
or	MATH-108 Introduction to Statistics
or	MATH-180 Statistical Methods
or	PSYC-123 Statistics for the Behavioral Sciences

Year 2

4	INFS-174 Data Collection and Modeling
4	ACCT-200 Financial Accounting
4	ACCT-210 Legal Environment
2	INFS-233 Data-Driven Decision Making
4	MGMT-240 Principles of Management
4	MKTG-280 Marketing
2	MGMT-105 Introduction to Professional Development

Year 3

4	ACCT-330 Managerial Accounting
4	FINC-340 Corporate Financial Management

Year 4

4	INFS-472 Data Insight and Visualization
4	MGMT-400 Business Policy and Strategy
4	MGMT-404 Global Business Ethics

No grade below a C- will be accepted toward graduation for foundation courses; upon earning a grade below C- in a foundation course, the student must retake the course the next semester in which it is offered. The course descriptions listed later in the catalog identify prerequisites, and these suggest a certain degree of order in completing the foundation. In addition to the foundation, first-semester business students enroll in MGMT-102 Global Business Perspectives (four semester hours), which provides an introduction to liberal studies and college life, as well as an overview of business functional areas, career opportunities and the Sigmund Weis School curriculum. This course satisfies the Perspectives requirement of the Central Curriculum.

BUSINESS DATA SCIENCE

Continuing advancements in technology enable organizations to collect and analyze increasing volumes of data that can inform strategic and operating decisions from a variety of business perspectives. Students complete the business foundation courses which enable students to understand and apply theories from economics, accounting, marketing, finance, information systems, and management. The business foundation courses are then complemented by coursework in the mathematical sciences. This combination of coursework enables students to understand the application of data science techniques to business decision making.

4	CSCI-181	Principles of Computer Science
4	CSCI-281	Data Structures
4	MATH-201	Linear Algebra
4	CSCI-301	Data Mining
4	CSCI-401	Machine Learning
2	INFS-505	Capstone

Courses that fulfill the Business Data Science major requirement may not also be used to satisfy requirements of minor in Data Science/Analytics. In addition, students in this major may not also have a minor in Computer Science.

FINANCE

The finance major prepares students for positions in all areas of finance, including asset management, corporate financial management, commercial and investment banks in an international context, investment advisory services, mutual funds, brokerages, and insurance. The major includes an optional CFA track that provides in-depth coverage of key areas tested on the CFA Level I examination.

Students will be offered the opportunity to participate in the Susquehanna University Student Investment Program (SUSIP). SUSIP is a student-managed investment fund that focuses on sustainability investment.

The finance major requires completion of the business foundation and the following courses, as follows:

4	FINC-300 Financial Statement Analysis
4	FINC-342 Investment Analysis
4	FINC-345 International Financial Management

And 8 semester hours selected from the following courses:

4	FINC-344 Financial Institutions and Markets
4	FINC-441 Advanced Corporate Financial Management
4	FINC-442 Portfolio Management
4	FINC-443 Equity Asset Analysis and Valuation
4	FINC-445 Financial Modeling and Fixed Income Analysis
2-4	FINC-446 Topics in Finance
2	ACCT-220 Introduction to Taxation

Students planning careers in investments are encouraged to take the following CFA track. This track is designed to provide in-depth coverage of CFA Level I examination topics, including CFA Institute Code of Ethics and Standards of Professional Conduct.

4	FINC-442 Portfolio Management
4	FINC-443 Equity Asset Analysis and Valuation
4	FINC-445 Financial Modeling and Fixed Income Analysis

Students participating in the Susquehanna University Student Investment Program (SUSIP) must enroll in FINC-442 and FINC-443.

Minor in Finance. The minor in Finance requires 16 semester hours. To complete the minor, students must have a GPA of at least 2.00 in the minor coursework and no grade below a C- in courses chosen from the following:

4	FINC-340 Corporate Financial Management

12 semester hours from the following:

4	FINC-342 Investment Analysis
4	FINC-344 Financial Institutions and Markets
4	FINC-345 International Financial Management
4	FINC-441 Advanced Corporate Financial Management
4	FINC-442 Portfolio Management
4	FINC-443 Equity Asset Analysis and Valuation
4	FINC-445 Financial Modeling and Fixed Income Analysis
2-4	FINC-446 Topics in Finance

FINANCE COURSES

FINC-300 Financial Statement Analysis

Study of the information contained in balance sheets, income statements, statements of cash flow, and footnotes in the annual reports of corporations. Includes analysis of the relationships and predictability of such information. The course includes case studies, computerized analyses and library research. Prerequisite: ACCT-200. 4 SH.

FINC-340 Corporate Financial Management

Examines the theory and practice of corporate financial management. Topics include the financial environment, time value of money, bond and stock valuation, and the capital asset pricing model. Also covers analysis of financial statements, financial forecasting, capital budgeting, long-term financing decisions, the cost of capital, capital structure, dividend policy and working capital management. Prerequisites: ACCT-200, Introductory statistics course, (MATH-108, MATH-180, MGMT-202 or PSYC-123) and either ECON-105 or both ECON-201 and ECON-202. 4 SH.

FINC-342 Investment Analysis

Examines various investment vehicles within a risk and return framework. Topics include the structure and operation of markets, use of margin, short sales, stock market indexes, mutual funds, efficient market hypothesis, stock and bond valuation, duration, international investing, call and put options, futures contracts, real estate, and portfolio management. Uses a mutual fund study, a stock valuation exercise and a computer database to increase knowledge and experience in investment management. Prerequisite: FINC-340. 4 SH.

FINC-344 Financial Institutions and Markets

Focuses on the financial services industries and financial markets in the U.S. economy. Topics include the structure of the financial markets and the roles of the financial services industry and the federal government in these markets; the valuation of fixed-income securities; risk-return trade-offs in capital markets; hedging and the use of financial derivatives to manage interest rate risk, foreign exchange risk, credit risk and liquidity risk; asset-liability-liquidity management emphasizing GAP and duration analysis; and mergers and acquisitions. Prerequisite: FINC-340. 4 SH.

FINC-345 International Financial Management

Examines the theoretical and practical analysis of the financing and investment decisions of multinational firms operating in international financial markets. Topics include international asset valuation, international financing and investments, foreign currency, foreign exchange risk exposure and country risk management. Prerequisite: FINC- 342. 4 SH.

FINC-441 Advanced Corporate Financial Management

A brief review of MGMT-340 with additional depth in such topics as risk and return, cost of capital, capital structures theory and practice, capital budgeting, and financial statement analysis. Expands to cover topics such as lease financing and debt refinancing. Uses case studies to apply these concepts and theories. Prerequisite: FINC-340. 4 SH.

FINC-442 Portfolio Management

This course is designed to focus on the work of portfolio managers. Students will learn how to establish appropriate investment objectives, develop optimal portfolio strategies, estimate risk-return trade-offs, select investment managers and evaluate investment performance. Many of the latest quantitative approaches in portfolio formation and evaluation are discussed. This course will draw upon selected materials from the CFA professional designation curriculum. This class is one of the two courses that make up the "Susquehanna Student Investment Program, SUSIP." Prerequisite: FINC-342. 4 SH.

FINC-443 Equity Asset Analysis and Valuation

Examines various investment techniques using empirical analysis within the framework of modern portfolio theory. The course features a top-down fundamental analysis approach using both economic and industry financial data. Topics include macroeconomics, portfolio analysis, financial statement analysis, traditional investment theory, intrinsic security valuation, efficient market hypothesis, executive compensation, insider trading, and advanced technical writing and oral presentations. Prerequisite: FINC-340. 4 SH.

FINC-445 Financial Modeling and Fixed Income Analysis

This course focuses on securities that promise a fixed income stream. Topics include features of bonds, risk of bonds, yield spreads, duration, convexity, term structure, volatility of interest rates, and CDO's. Financial models are developed using Excel and focusing on extraction of financial data and converting it into models useful for financial decision-making. Prerequisites: FINC-340 and instructor's permission. 4 SH.

FINC-446 Topics in Finance

Topics of current importance and interest in finance. Prerequisites: FINC-340. 2-4 SH.

FNCE-501 Independent Study

Individualized academic work for qualified students under faculty direction. 1-4 SH.

INFORMATION SYSTEMS COURSES

INFS-174 Data Collection and Modeling

This course deals primarily with projects that collect and structure data as part of the preparation for data analysis and visualization. Major emphasis is placed on managing a data collection project and data structuring to provide the basis for algorithmic analysis. Students will study project management, data manipulation, data modeling, and Structured Query Language. 4 SH.

INFS-233 Data Driven Decision Making

This course enables students to advance their knowledge of statistical techniques to synthesize, analyze and draw insights from quantitative data. It emphasizes the application of mathematical and quantitative methods and Microsoft Excel to analyze and present data to improve business and economic decision making. Prerequisite: MATH-108, MATH-180, MGMT-202 or PSYC-123. 2 SH.

INFS-271 E-Business Applications Development

An introduction to the basics of client/server computing and Web-based system development. The course covers the concepts of networking, Web technologies, HTML (hyper-text markup language), client-side scripting (JavaScript), server-side scripting (PHP, ASP, and ISP), and structured query language (SQL) The course builds upon Database Systems Analysis and Design by linking an interactive Web design to a database. Prerequisite: INFS-174. 4 SH.

INFS-276 Simulation Models

Design, development and use of computer models for planning, allocation and scheduling in the manufacturing and service sectors. Uses queuing theory and statistical analysis to interpret results. Includes the use of Simul8 or some other special-purpose simulation language. Prerequisites: A statistics course such as MATH-108, MATH-180, MGMT-202, PSYC-123 or equivalent, and COMM-101. 2 SH.

INFS-375 Database Programming

A practical course to teach database programming in SQL. Topics include relational database management systems fundamentals such as extended entity-relationship modeling, normalization and physical database file organization. Additional topics include database administration and data warehousing. Students develop a prototype database for an actual client. Prerequisites: CSCI-181, INFS-174 or CSCI-281. 4 SH.

INFS-472 Data Insight and Visualization

This course provides a framework for understanding the technologies associated with algorithmic analysis and data presentation for business decision-making. Students will study analysis techniques that enable insights and patterns to be drawn from descriptive, predictive, and prescriptive analytics. Tools that support these techniques will be researched and presented by student teams, and they will also be investigated through Individual research projects. Prerequisites: INFS-174 and either INFS-233 or MGMT-203. 4 SH. CC: Writing Intensive.

INFS-485 Artificial Intelligence

A brief summary of the tools, techniques and applications of artificial intelligence. Introduces problem solving and knowledge representation and selects topics from techniques for constructing models, robot design, language processing, computer vision, neural networks and expert systems. Same as CSCI-485. Prerequisites: CSCI-281, MATH-111 and either MATH-108 or MATH-180. 2 SH.

INFS-496 Topics in Information Systems

Topics of current importance and interest in information systems. Emphasizes readings from the current literature. Prerequisite: Instructor's permission. 2 or 4 SH.

INFS-501 Independent Study

Individualized academic work for qualified students under faculty direction. Usually studies special topics not covered in regularly offered courses. Prerequisites: Junior or senior standing and approval of instructor and department head. 2 -4 SH.

INFS-502 Independent Research

A research project culminating in a substantive paper on a selected topic or field in computer science or information systems by arrangement with an instructor. Prerequisites: Junior or senior standing and permission of computer science department head or information systems department head. 2-4 SH.

INFS-503 Information Systems Internship

A learning experience that cultivates a student's academic and professional development through valuable work experience and the integration of classroom-acquired knowledge by working at a firm, corporation, government agency, or nonprofit organization. Prerequisites: Faculty advisor's permission, approval by the SWSB Internship Committee, and acceptance by organization. Graded on an S/U basis. 1-4 SH.

INFS-505 Capstone

This semester-long course serves as a capstone experience for business data science majors. Students will engage in projects that can benefit a university or community group involving data analytics.

This course requires students to integrate principles learned from their data science and business foundations coursework. These projects will change each year based on requests and arrangements made through the faculty in the Department of Management. The projects largely will focus the students on the development of data analytical solutions to solve analytical problems associated with large volumes of data. Prerequisites: INFS-174, CSCI-301, and senior standing. 2 SH. Capstone.

SIGMUND WEIS SCHOOL OF BUSINESS LONDON PROGRAM COURSES

INTD-133 British Theatre

Offered to students participating in the London Program of the Sigmund Weis School of Business, this course provides knowledge and exposure to the art of theatre performance by utilizing the rich offerings of the theatre and other fine arts resources in London and England. 4 SH. CC: Artistic Expression.

INTD-134 British History/Culture London

Offered to students participating in the London Program of the Sigmund Weis School of Business, this course introduces students to the theories and principles of diversity by examining Great Britain as a case study in diversity. The course explores key aspects diversity in relation to, but not limited to, class, race, gender and sexuality. A key focus will be location-specific study of social and cultural diversity through student exploration of the role played by culture, ethnicity, class, race and gender in Britain's past and in its contemporary life. This will involve exploring the opportunities and challenges faced by individuals, businesses and non-profit organizations in their engagement with issues of equality and social justice. Students will learn about contemporary British culture and they will be able to compare that culture with that of the United States. 4 SH. CC: Diversity.

OFFP-SWSB SWSB London Program Planning

The goal of this course is to prepare study abroad students for a semester's study in the Sigmund Weis School of Business London Program. Students begin work toward achieving the cross-cultural learning goals; examples include examining definitions and aspects of culture and learning to recognize ethnocentrism. They will be introduced to observational and reflective techniques to be used on site and will begin an investigation of the history and culture of their destination. Many differences come into play: finances, physical health and safety, cultural expectations, and world affairs differ in relevance to the SU student studying on campus versus studying in London. This course will respond to the question of how to research, plan and prepare for a study abroad experience, as well as how to prepare to return home. This course also includes some mandatory workshops provided by the GO Program office. Prerequisite: Approval by the GO Program office. 1 SH.

OFFR-SWSB SWSB London Program Reflection

This course completes the cross-cultural requirement for students in the Sigmund Weis School of Business London Program. This course is designed to allow students to reflect on a cross-cultural experience and to integrate that experience into their social, intellectual, and academic life. They will explore the complexities of culture—both their own and that in which they have been immersed—in order to understand the possibilities and responsibilities of being a global citizen. Through short assignments, student presentations, a final paper and an opinion survey, students reflect on their learning in London coursework, company visits, consulting projects and more. Prerequisites: Completion of the SWSB London semester. 1 SH CC: Cross-Cultural Reflection.