

OPERATIONS AND INFORMATION MANAGEMENT (OPIM)

OPIM 5110. Operations Management. (3 Credits)

An operations manager is concerned with designing, operating and controlling a system for producing goods and services. Design decisions include selecting a process technology, organizing jobs, selecting vendors, and developing the location and layout of facilities. Operating the system involves planning and scheduling work and material flow, controlling quality, and managing inventories. General systems concepts and models are developed and applied. Topics include process flow analysis, inventory systems, waiting line analysis, quality design, capacity resource planning, project management, and integrating operations with the firm's strategic plans.

Enrollment Requirements: Open to MBA and MSBAPM students, others with consent. Not open to students who have passed or are currently enrolled in OPIM 5184.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205110>)

OPIM 5111. Supply Chain Analytics. (3 Credits)

Managing supply chains is a complex and challenging task, given the current business trends of expanding product variety, globalization and digitalization of business, and ever changing customer expectations for fast and on-time delivery. To make right and timely decisions in the era of big data, an increasing number of companies have started to apply data analytics in supply chain management. A recent Accenture survey reveals that the use of data analytics has successfully helped companies improve customer service, reduce reaction time to supply chain issues, increase supply chain efficiency, and drive greater integration across the supply chain. This course will introduce the concepts and methods related to the design, planning, control, and coordination of supply chains with a focus on the applications of data analytics in supply chain management. The course consists of various components: lectures, case studies and a simulation game. In lectures, we introduce theoretical frameworks and useful analytical models. In case studies, we analyze supply chain issues under real-world business scenarios. In the simulation game, you will (virtually) manage a supply chain of fruit juice.

Enrollment Requirements: Open only to MBA, MSBAPM, and Advanced Business Certificate in Supply Chain Analytics students, others with consent.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205111>)

OPIM 5112. Strategic Sourcing. (3 Credits)

Sourcing (or purchasing) has evolved as a strategic function that affects firms' ability to meet customer needs and their competitive advantages in today's global business environment. It refers to the collaborative and structured process of acquiring goods and services from suppliers, along with the function of managing suppliers, to achieve desired supply chain performance. This course introduces the framework and fundamental concepts in sourcing, as well as the tools to effectively manage the strategic sourcing process.

Enrollment Requirements: Open only to MBA, MSBAPM, and Advanced Business Certificate in Supply Chain Analytics students, others with consent.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205112>)

OPIM 5113. Distribution and Logistics. (3 Credits)

Economic globalization has increased the criticality of distribution, transportation, and logistics operations for the global supply chain. A calamity in any part of a distribution system, including transportation of raw materials, warehousing, delivery of finished goods, etc., can lead to costly repercussions such as supply shortages, revenue losses and customer dissatisfaction. An efficient and effective distribution and logistics system is vital to the success of businesses as it bridges temporal and geographical gaps between production and consumption. The recent development of e-commerce and customers' increased awareness of sustainability have posed new challenges in distribution and logistics strategies. Introduces concepts related to the global supply chain and distribution strategies, transportation and logistics planning, and warehouse operations. Emphasis on quantitative methods and analytics tools for the design of distribution network, transportation planning, and logistics operations.

Enrollment Requirements: Open only to MBA, MSBAPM, and Advanced Business Certificate in Supply Chain Analytics students, others with consent.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205113>)

OPIM 5114. Sustainable Supply Chain Management: Strategies for Environmental and Social Responsibility. (3 Credits)

Supply chain sustainability has gained significant importance in today's globalized and interconnected world. This course provides a comprehensive understanding of sustainable supply chain management. It equips students with the knowledge and tools to develop strategies for achieving environmental and social responsibility in supply chain operations. Students will explore the critical role of supply chains in addressing global sustainability challenges, such as climate change, resource scarcity, human rights, and fair labor practices. This course aims to empower students to create positive change in supply chains, drive innovation, and promote long-term economic, environmental, and social value through a combination of theoretical concepts, practical case studies, and interactive discussions.

Enrollment Requirements: Open to all School of Business graduate students.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205114>)

OPIM 5115. Supply Chain Finance. (3 Credits)

Supply Chain Finance (SCF) involves the use of financing and risk mitigation practices and techniques to optimize the management of the working capital and liquidity invested in supply chain processes and transactions. Supply chain finance is an increasingly important subject that brings new opportunities and challenges to businesses, as companies extend their supply chains in an environment of restricted supply of credit in different geographies and adopt various innovative SCF approaches. To provide a comprehensive understanding of the theories and practices of SCF, this course will offer a mixed pool of theory concepts, application tools, simulation games, and case studies. Among the topics explored are working capital management, inventory financing, financial hedging, trade credit, factoring and reverse factoring, SCF instruments, accounting regulation, fintech innovation, blockchain technology, and sustainable SCF.

Enrollment Requirements: Open to all School of Business Graduate Students.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205115>)

OPIM 5181. Introduction to Data Analytics. (1.5 Credits)

Introduction to key issues and concepts in data analytics. Begins by delineating the differences between standard statistical analysis, including model estimation and evaluation, and the data driven approach of data analytics. A good deal of emphasis is placed on critical issues underlying almost all data analytics projects, including data quality (accuracy, objectivity, and reliability), missing values, outliers, and data standardization. Introduction to basic analytics techniques and processes.

Enrollment Requirements: BADM 5180, which may be taken concurrently.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205181>)

OPIM 5182. Management Information Systems. (1.5 Credits)

Information technology (IT) has had a dramatic impact on how individuals and organizations work, and is an important force shaping entire industries and value creation by firms. Most business school graduates will have IT related responsibilities during their careers, no matter which functional area they are in, and will be involved in efforts to select, adopt, and exploit information technologies in support of business goals. The goal of this course is to prepare students to execute these responsibilities effectively, and to be able to do so even as the set of available technologies changes over time. The course presents students with frameworks that let them analyze business situations involving IT in a structured way. It will also help them develop sophisticated understanding of the links between IT, business strategy, and business process. They will also gain an appreciation of the organizational and management practices that complement IT investments.

Enrollment Requirements: Open only to MBA students, others with consent. Not open to students who have passed BLAW 5182.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205182>)

OPIM 5185. Introduction to Data Analytics and Managing Information Systems. (3 Credits)

Introduction to key issues and concepts in data analytics. Delineates differences between standard statistical analysis, including model estimation and evaluation, and the data driven approach of data analytics. Emphasis on critical issues underlying almost all data analytics projects, including data quality (accuracy, objectivity, and reliability), missing values, outliers, and data standardization. Introduction to basic analytics techniques and processes. Prepares students to execute IT-related responsibilities effectively, and to be able to do so even as the set of available technologies changes over time. Presents students with frameworks that let them analyze business situations involving IT in a structured way. Students will develop sophisticated understanding of the links between IT, business strategy, and business process. Students will also gain an appreciation of the organizational and management practices that complement IT investments.

Enrollment Requirements: Not open for credit to students who have passed OPIM 5165, 5181, or 5182.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205185>)

OPIM 5270. Introduction to Project Management. (3 Credits)

The course introduces students to the terminology, processes, tools, and techniques for the traditional (waterfall) project management methodology. Students will be exposed to best practices in scheduling, budgeting, managing risk, allocating resources, monitoring, and controlling projects. Students will gain experience utilizing an industry leading tool to schedule, budget, and resource a project. Practical experience will be gained by working on project teams on standard project management deliverables. Designed for future project managers or technical individual contributors that want to have more knowledge on how to be a better member of a project team.

Enrollment Requirements: Open only to MBA and MSBAPM students, others with consent.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205270>)

OPIM 5272. Data Management and Business Process Modeling. (3 Credits)

Introduces common techniques for relational data management, including conceptual modeling, table design and Structured Query Language (SQL). Additionally covers topics from business process re-engineering, with a focus on process modeling and how process improvement influences favorable database design.

Enrollment Requirements: Open only to MBA, MSBAPM, and MS FinTech students, others with consent.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205272>)

OPIM 5500. Field Study Internship. (3 Credits)

Gives students real-world experiences in applications of analytics and/or project management through an internship or industry project undertaken individually with a company under the joint supervision of a faculty member and the student's field supervisor. Student performance will be evaluated on the basis of an appraisal by the field supervisor and a detailed written report submitted by the student.

Enrollment Requirements: Open to all MSBAPM and MS FinTech students. International students must have completed both a spring term and a fall term prior to taking this course. Departmental consent required.

May be repeated for a total of 6 credits

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205500>)

OPIM 5501. Visual Analytics. (3 Credits)

Explores techniques and best practices in visualizing data. From simple cross tabs to more complex multi-dimensional analysis, explores why particular data visualizations can better illustrate patterns and correlations inherent in the data itself. Examines cognitive function and its role in data visualization designs; showing that data visualization can reveal answers and questions alike. Utilizing state of the art software, the use of parameters, filters, calculated variables, color, space and motion to visually articulate the data are surveyed. The use of dashboards to quickly reveal data-driven information that has daily relevance to executives, managers, supervisors and line personnel are investigated. Common pitfalls in visualization design and why less is often more are considered.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205501>)

OPIM 5502. Big Data Analytics with Cloud Computing. (3 Credits)

In-depth, hands-on exploration of various cutting-edge information technologies used for big data analytics. The first half focuses on using big data management techniques for ETL (extract-transform-load) operations. The second half focuses on using big data analytics tools for data mining algorithms such as classification, clustering, and collaborative filtering. Extremely hands-on, requiring students to spend significant time working with large datasets. Students are expected to have taken at least one course in data modeling and one course in data mining (please see pre-requisites) or have significant related work experience. Students should expect to become familiar with the Unix operating system, as well as data programming concepts. Students may be required to install some software on their computers on their own, with very little support, if any, from the instructor or anyone else. Students should be willing to troubleshoot any issues during installation, drawing help from Google searches.

Enrollment Requirements: OPIM 5604 or BADM 5604; and OPIM 5272.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205502>)

OPIM 5504. Adaptive Business Intelligence. (3 Credits)

The use of techniques from statistics and optimization to implement adaptive business intelligence (ABI) decision support systems. The course will introduce students to the different components of ABI systems as well as to the fundamentals of adaptive statistical methods, simulation adaptive methods, and evolutionary algorithms. Applications to diverse management contexts evolving in time will also be discussed.

Enrollment Requirements: OPIM 5603; open only to MBA and MSBAPM students, others with consent.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205504>)

OPIM 5505. Analytical Consulting for Financial Services. (3 Credits)

Exposes students to a wide array of real consulting situations in business analytics operations and financial services, and will teach students methods of addressing these problems using spreadsheets, simulation, and optimization methods. While consulting encompasses many specific tasks and requires broad functional knowledge, there is an increased need and appreciation of the usefulness of analytical consulting.

Enrollment Requirements: OPIM 5641 or BADM 5181.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205505>)

OPIM 5508. Healthcare Analytics and Research Methods. (3 Credits)

Evidence-based practice, research techniques, health data collection devices, legislation and regulation of health data, ethical use of health data, and reporting tools. Prepares students for employment opportunities within a clinical or medical research environment.

Enrollment Requirements: BADM 5103 or BADM 5180 or OPIM 5103 or OPIM 5603; open only to MBA and MSBAPM students, others with consent. Not open for credit to students who have passed OPIM 5894 when offered as Healthcare Analytics.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205508>)

OPIM 5509. Introduction to Deep Learning. (3 Credits)

Introduction to topics related to deep learning and will build on your previous experience in predictive analytics. Use of neural networks for a host of data and applications - including time series data, text data, geospatial data, and image data.

Enrollment Requirements: OPIM 5512 and 5604; open only to MBA, MSBAPM, and MS FinTech students, others with consent. Not open to students who have passed OPIM 5894 when offered as Introduction to Deep Learning.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205509>)

OPIM 5510. Web Analytics. (3 Credits)

Introduction to key concepts, techniques, and tools for analyzing web data to derive actionable customer intelligence, develop digital marketing strategies and evaluate their impacts. Clickstream tracking, search engine analytics, digital experiments, and social analytics.

Enrollment Requirements: OPIM 5604; open only to MBA and MSBAPM students, others with consent. Not open for credits who have passed OPIM 5894 when offered as Web Analytics.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205510>)

OPIM 5511. Survival Analysis with SAS. (3 Credits)

Describes the various methods used for modeling and evaluating survival data, also called time-to-event data. General statistical concepts and techniques, including survival and hazard functions, Kaplan-Meier graphs, log-rank, and related tests, Cox proportional hazards model, and the extended Cox model for time-varying covariates and non-proportional hazards.

Enrollment Requirements: OPIM 5604; open only to MBA and MSBAPM students, others with consent. Not open for credits who have passed OPIM 5894 when offered as Survival Analysis using SAS.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205511>)

OPIM 5512. Data Science using Python. (3 Credits)

Data science concepts using the Python programming language. Data wrangling and management using Pandas; visualization using Matplotlib; fundamentals of matrix algebra and regression, with illustrations using Numpy; machine learning, focusing on fundamental concepts, classification, and information extraction.

Enrollment Requirements: OPIM 5604; MBA, MSBAPM, and MS FinTech students, others with consent. Recommended preparation: Students are expected to know the fundamentals of Python programming language (or another language) through self-study, previous coursework or previous work experience, including topics such as loops, functions, and data structures. Not open to students who have passed OPIM 5894 when offered as Data Science with Python.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205512>)

OPIM 5513. Blockchain. (1.5 Credits)

This course examines the foundations of blockchain technology from multiple perspectives, including engineering, law, and economics. The course will cover blockchain technologies, distributed ledger technology, cryptocurrencies (e.g., Bitcoin), and their applications, implementation, and security concerns. Students will learn how these systems work; analyze the security and regulation issues relating to blockchain technologies, and understand the impact of blockchain technologies on financial services and other industries. The student will get a detailed picture of blockchain business networks' components and structures, such as ledgers, smart contracts, consensus, certificate authorities, security, roles, transaction processes, participants, and fabrics. View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205513>)

OPIM 5514. Mobile Application Development. (3 Credits)

The focus of this course is to use cross-platform mobile application development technologies to develop mobile apps for both iOS and Android systems. Students will learn how to plan and create their own mobile apps. Graphical User Interface (GUI) design skills as well as programming logics will be taught and emphasized throughout the course. Upon completion of this course, students should be able to use the programming skills they learn to develop useful and user-friendly mobile apps for both iOS and Android devices.

Enrollment Requirements: Open only to MS FinTech students, and others with consent.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205514>)

OPIM 5601. Technical Communications in Business Analytics and Project Management. (1 Credit)

Reviews the foundational knowledge necessary for MSBAPM student to be a well-equipped analytics professional. Communication skills are essential to convey technical analytical content. Topics such as Public Speaking, Emotional Intelligence, Non-Verbal Communication, Requirements Gathering, and Etiquette via multiple modes of Communications (email, phone, in person, one to one, and one to group) and more will be discussed and practiced. Such skills are critical to professional success as the industry is changing to require technical depth and also the ability to connect it to the business. Topics covered include: Communication Skills - Bridging the Gap between the Technical and Business; Presentations Skills - Technical Content to the Business; Networking with Analytics Professionals.

Enrollment Requirements: Open only to MBA and MSBAPM students, others with consent.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205601>)

OPIM 5603. Statistics in Business Analytics. (3 Credits)

Advanced level exploration of statistical techniques for data analysis. Students study basic concepts in descriptive and inferential statistics, data organization and visualization, sampling, probability, random variables, sampling distributions, hypothesis testing, linear regression, and logistic regression. Topics will focus on rigorous statistical estimation and testing. Prepares students with the skills needed to work with data using analytics software.

Enrollment Requirements: Open only to MBA, MSBAPM, and MS FinTech students, others with consent.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205603>)

OPIM 5604. Predictive Modeling. (3 Credits)

Introduces the techniques of predictive modeling in a data-rich business environment. Covers the process of formulating business objectives, data selection, preparation, and partition to successfully design, build, evaluate and implement predictive models for a variety of practical business applications. Predictive models such as neural networks, decision trees, Bayesian classification, and others will be studied. The course emphasizes the relationship of each step to a company's specific business needs, goals and objectives. The focus on the business goal highlights how the process is both powerful and practical.

Enrollment Requirements: Open only to MBA, MSBAPM, and MS FinTech students, others with consent. Corequisite: OPIM 5603.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205604>)

OPIM 5605. Data Visualization and Communication. (2 Credits)

Data visualization is a form of storytelling that provides an effective way to draw conclusions and share insights, allowing people to express big, complex ideas in simple ways. Utilizing state of the art software, the use of parameters, filters, calculated variables, color, space and motion to visually articulate the data are surveyed. Common pitfalls and ethics issues in visualization design are also considered. This interactive course is designed to help students learn the methods, tools, and techniques to best understand and present complex data so that they can persuasively share results and influence decisions.

Enrollment Requirements: Open only to M.S. Data Science students; others with consent.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205605>)

OPIM 5620. Managing and Controlling Information Systems. (3 Credits)

Examines the management control problems and systems development processes from the dual perspective of managers of the computer information system, and the organization as a whole, including persons who interact extensively with the systems personnel or are administratively in a position to influence the information system.

Enrollment Requirements: Open to MBA and MSBAPM students, others with permission. MBA prerequisite: OPIM 5165 or OPIM 5182.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205620>)

OPIM 5641. Business Decision Modeling. (3 Credits)

Discusses business modeling and decision analysis. Covers topics such as optimization, simulation, and sensitivity analysis to model and solve complex business problems. The course will emphasize the representation of business decision problems as optimization problems and the use of specialized software to solve and analyze problems, as well as input data, and retrieve results.

Enrollment Requirements: Open only to MBA and MSBAPM students, others with consent.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205641>)

OPIM 5668. Agile Project Management and Methodologies. (3 Credits)

The Agile revolution has crossed over from manufacturing to software, product design, startups, and innovation. Dissect the types of organizations where Agile will work and where hybrid or Kanban approaches are utilized. Examine leadership qualities required at the transformation level for organizations adopting Agile, as well as the roles of the product owner, scrum master, and sprint team. Evaluate the impact of personas, backlog grooming, and estimation and their effect on development and product design. Test Driven Development and Extreme Programming theories underscore the evolution from traditional project management. Introduction to SAFe, Agile metrics and principles, and understanding the management decisions required when risk threatens an Agile effort. Leverages Jira, one of the most popular Agile project management software packages used in companies today.

Enrollment Requirements: OPIM 5270; open to MBA and BAPM students, others with consent.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205668>)

OPIM 5671. Data Mining and Time Series Forecasting. (3 Credits)

Discusses data mining, time series forecasting and text mining techniques that can be utilized to effectively sift through large volumes of operational data and extract actionable information and knowledge (meaningful patterns, trends, and anomalies) to help optimize organizational processes and significantly improve bottom lines.

The course covers theoretical and practical elements of various data analytics techniques such as natural language processing and advanced time series forecasting, with a focus on hands-on application in different business domains.

Enrollment Requirements: OPIM 5604 or BADM 5604; open only to MBA, MSBAPM, and MS FinTech students, others with consent.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205671>)

OPIM 5770. Advanced Business Analytics and Project Management. (3 Credits)

Capstone course involving a live data analytics project, where students will need to integrate their knowledge of data analytics and project management. Using the skill sets of predictive modeling, data management, process models, and data mining techniques, students will investigate a real problem through data analytics, and will use their project management skills to complete the project within time and budget constraints.

Enrollment Requirements: OPIM 5604, 5272, 5668, and 5671. Open to MSBAPM and MBA students only.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205770>)

OPIM 5894. Special Topics. (1-6 Credits)

Introduces many of the most exciting and timely topics and advanced tools emerging in the field of data analytics and project management as announced in advance for each semester. With a change in content, may be repeated for a total of 18 credits.

May be repeated for a total of 18 credits

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205894>)

OPIM 5895. Special Topics in Information Management. (1-3 Credits)

Faculty-student interaction on a one-to-one basis involving independent study of specific areas of operations management, operations research and/or information management. Emphasis, selected by the student, may be on theoretical or applied aspects. A written report is required.

May be repeated for a total of 12 credits

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%205895>)

OPIM 6200. Investigation of Special Topics. (1-6 Credits)

In-depth investigation in special topics in Operations and Information Management.

Enrollment Requirements: Open only to doctoral students.

May be repeated for a total of 9 credits

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%206200>)

OPIM 6201. Research Methods for Operations and Information Management. (3 Credits)

Several advanced analytical methods that are relevant to students' areas of research will be studied in depth in this seminar. Topics may include special mathematical programming; complex decision making; linear models; advanced statistical analysis; and stochastic processes.

May be repeated for a total of 12 credits

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%206201>)

OPIM 6202. Seminar in Operations Management. (3 Credits)

Introduces doctoral students to the current research concerns in the field of Operations Management. The course will also acquaint students with the variety of research tools used in the field, enable them to critically evaluate the research of other scholars in the field as well as to develop research skills in identifying potential research problems to be analyzed.

May be repeated for a total of 12 credits

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%206202>)

OPIM 6203. Seminar in Management Information Systems. (3 Credits)

A topic on a significant applied or theoretical aspect of information systems will be chosen. Broadly, these aspects will encompass modeling, design, implementation, testing, and operation of computer information systems, and the implications of information technologies for the organization.

May be repeated for a total of 12 credits

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%206203>)

OPIM 6204. Seminar in Operations Research and Optimization. (3 Credits)

Introduces classical and state-of-the-art optimization methods, modeling techniques, exact algorithms and heuristics, emphasizing deterministic operations research and computational complexity theory.

Enrollment Requirements: Instructor consent.

May be repeated for a total of 12 credits

View Classes (<https://catalog.uconn.edu/course-search/?details&code=OPIM%206204>)