

BUSINESS ANALYTICS (MSBA)

Subject-area course lists indicate courses currently active for offering at the University of Louisville. Not all courses are scheduled in any given academic term. For class offerings in a specific semester, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>).

500-level courses generally are included in both the undergraduate- and graduate-level course listings; however, specific course/section offerings may vary between semesters. Students are responsible for ensuring that they enroll in courses that are applicable to their particular academic programs.

Course Fees

Some courses may carry fees beyond the standard tuition costs to cover additional support or materials. Program-, subject- and course-specific fee information can be found on the Office of the Bursar website (<http://louisville.edu/bursar/tuitionfee/>).

MSBA 600. Master of Science in Business Analytics 0 Units

Description: Master of Science in Business Analytics - billing course
For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

MSBA 605. Programming for Analytics 1.5 Units

Term Typically Offered: Fall Only

Prerequisite(s): Admission to MSBA degree program.

Description: This course introduces essential general programming concepts and techniques to a data analytics audience with no prior programming experience. Students will learn the aspects of programming that can support business analytics with hands on programming including accessing data, creating informative data graphics, writing functions, debugging, and organizing code. Examples are drawn from the problems and programming patterns often encountered in data analysis. It will use a common analytics programming language such as Python.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

MSBA 610. Linear Algebra 1.5 Units

Term Typically Offered: Fall Only

Prerequisite(s): Admission to MSBA degree program.

Description: This course introduces students to the fundamentals of linear algebra with major topics involving elimination and LU-factorization, dimension, rank, and nullspace, linear mappings, orthogonality, least squares, eigentheory, diagonalizability, and systems of linear differential equations.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

MSBA 615. Introduction to Statistical Packages 1.5 Units

Term Typically Offered: Fall Only

Prerequisite(s): Admission to MSBA degree program.

Description: This course provides an intensive, hands-on introduction to the R programming language. The student will learn the fundamental skills required to acquire, manage, transform, manipulate, and visualize data in a computing environment that fosters reproducibility. For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

MSBA 620. Data Analytics I 3 Units

Term Typically Offered: Fall Only

Description: This course provides comprehensive understanding of analytical fundamentals. Students will learn business problems, the types of data required to address problems, and solution estimation. Students will learn how to setup and test the efficacy of a business strategy by setting up experiments, analyzing data, and making business decisions. The course will provide a basic understanding of some advanced analytical techniques.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

MSBA 625. Storytelling with Data 3 Units

Term Typically Offered: Fall Only

Prerequisite(s): Admission to MSBA degree program.

Description: This course is a data visualization and business presentations course specifically designed for professionals in the field of business analytics. Throughout the semester, you will develop your ability to organize, visualize, and present data driven messages that are professional, clear, concise, and persuasive. By the end of the course, you will enhance your ability to communicate with and about data in multiple business and professional contexts: formal individual presentations, team-based presentations, and informal one-on-one and small group interactions.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

MSBA 630. Data Management 3 Units

Term Typically Offered: Fall Only

Prerequisite(s): Admission to MSBA degree program.

Description: This course provides an introduction to issues, principles, and technologies of modeling and using organizational data. It covers concepts and skills for developing, accessing, and administering relational databases, and formulating and executing complex queries. It also discusses the role of data management technologies and practices in an organizational setting and how such technologies and practices may impact business strategy, business processes, and organizational structure. This course has a strong hands-on component. The course will make extensive use of a leading relational database management software and structured query language (SQL).

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

<p>MSBA 635. Data Analytics II 3 Units</p> <p>Term Typically Offered: Spring Only</p> <p>Description: This course builds on the MSBA 620 course by introducing more advanced topics in analytics. This course challenges and teaches students how to use powerful statistical tools (e.g., SmartPLS, SAS, and SPAA) to handle data that come in a variety of forms and sizes in more complex, less structured business situations. Students will participate in extensive hands-on work solving realistic business problems. This course may guide students with handling advanced regression analysis that deals with real-life models and interaction variables, time series analysis, and topics such as PLS path modeling. After taking this course, students should: 1) Approach business problems data analytically; 2) think systematically whether and how data can help make better informed decisions; 3) be able to interact competently with business analytical tools; and 4) have had hands-on experience mining data. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)</p>	<p>MSBA 650. Data Analytics III 3 Units</p> <p>Term Typically Offered: Spring Only</p> <p>Description: The course presents advance business analytics using R. The concepts learned in this class should help you identify opportunities in which business analytics can be used to improve performance and support important decisions. It will teach you important tools that can be used to transform data into high-impact business decisions. Lastly, it should make you alert to the ways that analytics can be used?and misused?within an organization. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)</p>
<p>MSBA 640. Decision Models 3 Units</p> <p>Term Typically Offered: Spring Only</p> <p>Description: This course trains students to turn real-world problems into mathematical and spreadsheet models and to use such models to make better managerial decisions. This is a hands-on course that focuses on modeling business problems, turning them into spreadsheet models and using tools like Solver to obtain solutions to these managerial problems. The course focuses on two classes of models, optimization and simulation. The application areas are diverse and they originate from problems in finance, marketing and operations. We cover problems such as how to optimize a supply chain and how to price products when faced with demand uncertainty. Topics covered include linear and linear integer programming, nonlinear programming and evolutionary solver, simulation and optimization, multi-period linear programming and Monte Carlo simulation. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)</p>	<p>MSBA 655. Special Topics: Marketing Analytics 1.5 Units</p> <p>Term Typically Offered: Spring Only</p> <p>Description: The use and analysis of data to guide marketing decisions is the focus of this course. The course will focus marketing metrics, their estimation, and use. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)</p>
<p>MSBA 645. Data Mining 3 Units</p> <p>Term Typically Offered: Spring Only</p> <p>Description: Data mining draws on statistics, artificial intelligence and machine learning to discover novel, interesting and actionable relationships and patterns in large and complex data sets. This course will introduce the student to the fundamentals of data mining, including methodology, data preparation, commonly used predictive models, supervised and unsupervised learning, model comparison and evaluation, and mining of unstructured data such as text. While the emphasis is on solving realistic business problems, the course will also provide a brief background for the various models and techniques introduced in the course. The course follows a learn-by-doing approach in which the students will complete assignments using real world data sets. A leading data-mining tool such as SAS Enterprise Miner will be used extensively in this course. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)</p>	<p>MSBA 680. Special Topics in Business Analytics 1.5-3 Units</p> <p>Term Typically Offered: Occasionally Offered</p> <p>Prerequisite(s): Admitted to MSBA & achieved elective status.</p> <p>Description: An advanced study of one or more selected topics or issues related to the study of business. Topics or issues could be from a single business discipline such as management or from a combination of business disciplines, such as accountancy and finance. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)</p> <p>MSBA 685. Analytics Internship 1 Unit</p> <p>Term Typically Offered: Spring Only</p> <p>Description: The academic objective of the internship program in the Master of Science in Business Analytics program is to provide enrolled students with an opportunity for hands-on business experience where they can apply classroom knowledge in a real-world setting and bring the experiences gained during their internship employment into the classroom. The internship is expected to nominally last for 11 months. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)</p>
	<p>MSBA 690. Analytics Capstone 3 Units</p> <p>Term Typically Offered: Spring Only</p> <p>Description: Each student assists (as a team member) an organization in the Louisville area to improve some aspects of its business analytics operations. The students develop project in conjunction with key business executive and work to investigate and then create recommended courses of action. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)</p>