

# BUSINESS ANALYTICS (BALT)

**BALT 1140 Excel with Business Applications.** (Formerly 2240) The participants in this course will not merely be able to calculate the bottom line, they will engage in the art of business analytics. Mastering the basics will open the door for serious financial calculations using real data modeling. Having derived the numbers, extensive use of Excel's graphic functions will be deployed to tell the business story. Since not all things can be calculated, use of Excel's statistical functions will be exercised to determine probabilities. To embolden the brave, we will delve into the extensive capabilities of macros that provide complete access to the whole of the Microsoft Office suite. Prerequisite: MATH 1105 or MATH 1110. 3 semester credit hour/s.

**Campus:** LISLE (Typically Offered: Fall and Spring Terms)  
MESA (Typically Offered: Periodically)

**BALT 1150 Business Statistics I.** (Formerly MGT 1150) Basic course in statistical technique; includes measures of central tendency, variability, probability theory, sampling, estimation, and hypothesis testing. Prerequisite: MATH 1105 or MATH 1110. Credit will not be given for both MATH 1150 and BALT 1150. IAI BUS901 3 semester credit hour/s.

**Designation:** Computational, Mathematical, and Analytical (QCM)  
**Campus:** LISLE (Typically Offered: Fall and Spring Terms)  
MESA

**BALT 2251 Business Statistics II.** (Formerly MGT 2251) Covers: Regression and correlation, analysis of variance, and nonparametric statistics. Prerequisite: MGT or BALT 1150. 3 semester credit hour/s.

**Campus:** LISLE (Typically Offered: Fall and Spring Terms)  
MESA

**BALT 2297 Internship.** (Formerly 297) 2-6 semester credit hour/s. Course Repeatable. Maximum number of units allowed: 12. Department Consent Required.

**Designation:** Engaged Learning

**Campus:** LISLE (Typically Offered: Annually)

**BALT 3300 Programming for Analytics.** (Formerly 300) This course will provide an introduction to programming languages used for analytics. Students will be exposed to the techniques required to take programming certification exams in the software presented. Prerequisite: Must earn a grade of C or better in MGT or BALT 1150. 3 semester credit hour/s.

**Campus:** LISLE (Typically Offered: Fall Term)

**BALT 3301 Managerial Decision Making Under Uncertainty.** (Formerly 301) This course introduces students to the art and science of decision making under constraints such as limited data, uncertainty, and competing objectives. The course provides students with hands on experience using problem solving techniques. Students will be introduced to simulation modeling, optimization techniques, and decision trees. Prerequisite: MGT or BALT 1150. 3 semester credit hour/s.

**Campus:** LISLE (Typically Offered: Fall Term)  
MESA (Typically Offered: Spring Term)

**BALT 3310 Visualization Techniques and Dashboarding.** There is a proliferation of data within organizations that can be used to reduce expenses and increase profits i.e. gain a competitive edge. Attempting to gain insight into the numbers through text is ineffective. Visualization techniques provide an opportunity to spot trends and patterns. This course focuses on using visualization techniques to develop business insights and dashboards to effectively convey those insights to a non-technical audience. Prerequisite: Must earn grade of C or better in MGT or BALT 1150. 3 semester credit hour/s.

**Campus:** LISLE (Typically Offered: Fall Term)

**BALT 3325 Lean Six Sigma for Operational Excellence.** (Formerly 325) Lean Six Sigma is a methodology that focuses on process efficiency and effectiveness which directly translates into increased customer satisfaction and improved return on Investment (ROI). This course focuses on the linkage between strategy and achieving operational efficiency using real-world projects and business cases. Prerequisite: Earned a grade of C or better in MGT or BALT 1150. 3 semester credit hour/s.

**Campus:** LISLE (Typically Offered: Fall Term)  
MESA (Typically Offered: Fall Term)

**BALT 3330 Database Structures & Queries.** (Formerly 330) In this course students will be introduced to the basic concepts of databases. The course stresses the storage, retrieval and manipulation of data using SQL. Computer software techniques used in business with emphasis on information management and database management systems (data management and analysis; database management systems, and query languages). The course also includes an overview of a data warehouse structure, developing skills in Microsoft Access and data retrieval for analysis. Prerequisite: Earned a grade of C in BALT 1140. 3 semester credit hour/s.

**Campus:** LISLE (Typically Offered: Fall Term)

**BALT 3350 Business Process Management.** (Formerly 350) This course introduces the latest advances in business process technologies and management such as business process planning, business process requirements analysis, business process modeling, workflow system design and implementation. The course will emphasize a hands-on approach. Prerequisite: Earned a grade of C in BALT 1140. 3 semester credit hour/s.

**Campus:** LISLE (Typically Offered: Spring Term)  
MESA (Typically Offered: Spring Term)

**BALT 3360 Social Network Analysis.** Social computing is a term used to describe the intersection of human social behavior and technology systems. This course will introduce students to the concepts of social networks from the viewpoint of economists, sociologists, psychologists and technologists. The focus of the course will be on viewing social groups as networks and decision making as a form of game theory. Real world applications such as online auctions and prediction markets will be explored. Prerequisite: Earned a grade of C in BALT 3301 or MGT/ BALT 2251. 3 semester credit hour/s.

**Campus:** LISLE (Typically Offered: Periodically)

**BALT 3370 Introduction to GIS for Business Analysis.** (Formerly 370) Introduction to GIS for Business Analysis. GIS is an advanced data visualization technique which organizes spatial data into layers for analysis and viewing as maps and 3d scenes. 3 semester credit hour/s.

**Campus:** LISLE (Typically Offered: Periodically)

**BALT 4320 Data and Text Mining.** (Formerly 320) Knowledge discovery and business analytics are core tools used by organizations to direct business decisions, improve strategies, reduce risk and create new business opportunities. This course focuses on algorithm techniques that can be used for knowledge discovery such as classification, association rule mining, clustering, and heuristics. Successful applications of this methodology have been reported in areas such as credit rating, fraud detection, database marketing, customer relationship management, and stock market investments. This course will cover data mining for business intelligence and will cover applications to both data and text. The focus is on several techniques that aim at discovering patterns that can bring value or “business intelligence” to organizations. Examples of such patterns include fraud detection, consumer behavior, and credit approval. The course will cover the most important data mining techniques including: classification, clustering, association rule mining, prediction — through a hands-on approach using specialty software. Prerequisite: Earned a grade of C in BALT 2251. 3 semester credit hour/s. **Campus:** LISLE (Typically Offered: Spring Term)

**BALT 4330 Predictive Analytics I.** (Formerly FINA 3335/330) Acquaints students with statistical forecasting methodologies, while placing special emphasis on the underlying assumptions. The emphasis is on time-series methods used for forecasting and includes techniques such as decomposition, smoothing, regression, and ARIMA modeling. Prerequisite: MGT 2251 or BALT 3301. 3 semester credit hour/s. **Campus:** LISLE (Typically Offered: Fall Term)

**BALT 4350 Web Intelligence and Analytics.** (Formerly 340) This course will focus on developing an understanding of web analytics and web intelligence. Students will learn how to: leverage Web site effectiveness and marketing; measure, identify, and interpret key Web metrics and KPIs. Additionally, students will gain an understanding of main data collection techniques, their impact on metrics, and their limitations. Insight into the potential of data mining and predictive analytics in the context of the Web will be explored as well as web spiders, web bots and social listening software. Prerequisite: BALT 3330. 3 semester credit hour/s. **Campus:** LISLE (Typically Offered: Periodically)

**BALT 4395 Independent Study in Business Analytics.** This course allows an opportunity for a student to concentrate on a specific topic related to an existing course or to explore a timely topic not covered in an existing course. A proposal is required, outlining the nature of the problem and scope of the investigation. A research paper or project is required, as appropriate to the problem under investigation. 1-3 semester credit hour/s. Course Repeatable. Maximum number of units allowed: 12. Department Consent Required. **Campus:** LISLE (Typically Offered: Fall and Spring Terms)

**BALT 4396 Special Topics in Business Analytics.** Timely business analytics topics are presented in the form of 1, 2, or 3-semester credit hour courses. Keeping pace with advances in analytics requires constant learning. These courses provide an opportunity to examine and assess issues in analytics. There are no designated prerequisites, but students are encouraged to have completed several business analytics courses. Topics are announced in advance. Department Consent Required. 1-3 semester credit hour/s. Course Repeatable. Maximum number of units allowed: 12. Department Consent Required. **Campus:** LISLE (Typically Offered: Fall and Spring Terms)

**BALT 4397 Institute Project.** (Formerly 397) Real-world project in business analytics under the supervision of a faculty mentor. 2-6 semester credit hour/s. Course Repeatable. Maximum number of units allowed: 12. Department Consent Required.

**Designation:** Engaged Learning  
**Campus:** LISLE