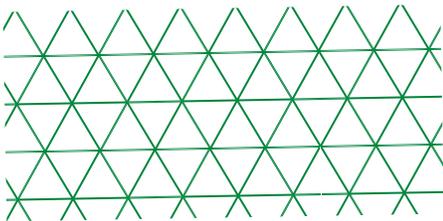# BUSINESS INTELLIGENCE

Learn the technologies that allow an organization to make effective business decisions based on operational data.

Interest in business intelligence has been a strong theme among employers. Medium and large-sized businesses are especially interested. In order to make appropriate decisions, upper-level administration of an organization needs to draw data together from different systems in order to get a unified picture of the status and performance of an organization and present it in helpful ways.

Examples include the development of organizational scorecards, dashboards and other tools that provide a picture of how an organization is performing. People capable of creating and maintaining such information are needed, but the in-depth education necessary for these people is available in only a few places. The Graduate Certificate in Business Intelligence focuses on the technologies that allow an organization to make effective business decisions based on operational data pulled together from many different sources inside an organization. The target audience consists of any individual who would manage any type of IT professionals, database administrators, business analysts, and any person who would need to understand the technologies behind the capabilities of those technologies.

Admission requirements

The graduate certificate program is open to all individuals holding a bachelor's, master's or Ph.D. degree in areas such as business, social sciences, technology, engineering, or related disciplines.

In order to receive a Graduate Certificate, the student must have an average graduate cumulative grade point of 3.0 or better on a 4.0 scale in the certificate courses taken. Students admitted only to the certificate program will have non-degree graduate status but will earn graduate credit for the courses they complete.

If the four-course sequence approved by the graduate advisor is completed with a grade of B or better in each of the courses taken, the student will, upon application, be admitted to the Master of Business Administration or to the Master of Science in Information Science and Technology. The certificate courses taken by students admitted to the program will count towards the MBA program or the M.S. in Information Science and Technology degree program.

Once admitted to the Certificate program, a student will be given three years to complete the program as long as a B or better average is maintained in the courses taken.
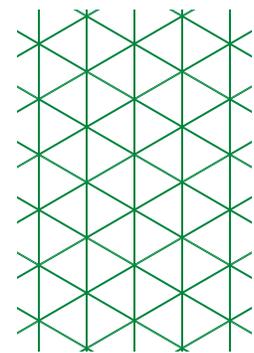
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COURSE DESCRIPTIONS

REQUIRED CORE COURSES

ERP 5410 Use of Business Intelligence
This course introduces data-oriented techniques for business intelligence. Topics include Business Intelligence architecture, Business Analytics, and Enterprise Reporting. SAP Business Information Warehouse, Business Objects, or similar tools will be used to access and present data, generate reports, and perform analysis.

Prerequisites: IST 3423 or equivalent; ERP 2110 or preceded or accompanied by ERP 5110

ERP/IST 6444 Essentials of Data Warehouses
This course presents the topic of data warehouses and the value to the organization. It takes the student from the database platform to structuring a data warehouse environment. Focus is placed on simplicity and addressing the user community needs.

Prerequisite: IST 3423 or equivalent relational database experience

ELECTIVE COURSES (CHOOSE TWO)

ERP 5110 Enterprise Resource Planning Systems (ERP) Design and Implementation.
This course provides a technical overview of Enterprise Resource Planning Systems and their impact on organizations. SAP's ERP system is introduced to illustrate the concepts, fundamentals, framework, general information technology context, the technological infrastructure, and integration of business enterprise-wide applications.

Prerequisites: Preceded or accompanied by ERP 2110; or graduate standing and computer programming knowledge

ERP 5210 Performance Dashboard, Scorecard and Data Visualization
This course will study different strategic performance management systems including dashboards, management cockpit, scorecards, and strategy maps in an organization. SAP's Strategic Enterprise Management (SEM), Business Objects Xcelsius, or similar tools will be used to enhance student education with real world applications.

Prerequisite: ERP 2110 or preceded or accompanied by ERP 5110

ERP 6610 Advanced Customer Relationship Management in ERP Environment
This customer-centric course emphasizes identification (targeting), acquisition, retention, and development (expansion) of (profitable) customers. It also covers effective and efficient management of customers with utilization of information technology. The SAP CRM module and SAS Enterprise Miner are used to enhance student education with real world applications and prepare graduates for future career requirements.

Prerequisite: ERP 2110 or preceded or accompanied by ERP 5110.

IST 6443 Information Retrieval & Analysis
Covers the applications and theoretical foundations of organizing and analyzing information of textual resources. Topics include information storage and retrieval systems, web search engines, text mining, collaborative filtering, recommender systems. Students will also learn the techniques with the use of interactive tools such as SAS.

Prerequisite: ERP 5410 or statistics knowledge.

IST 6445: Database Marketing
Intro to methods and concepts used in database marketing: 1) predictive modeling techniques (e.g., regression, decision trees, cluster analysis) and 2) standard processes for mapping business objectives to data mining goals to produce a deployable marketing model. Metrics like lifetime value of a customer and ROI will be covered. Several application areas covered.

Prerequisite: Statistics understanding, programming understanding, familiarity with spreadsheets.

ERP 6220 Data Modeling & Visualization Prototyping for Enterprise Decision Dashboards
This course will study implementation and design practices for enterprise performance management and monitoring systems with a focus on dashboards, balanced scorecard, and value based management. SAP's Strategic Enterprise Management (SEM), Business Object Xcelsius, or similar tools will be used for project implementation.

Prerequisite: ERP 5110 and one of ERP 5410, ERP 64444, or IST 6444