Master of Science in Business Intelligence and Analytics

Erivan K. Haub School of Business

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Mission

In the contemporary enterprise, the understanding of information systems, processes, and organizational knowledge is critical to success. The successful twenty-first century decision-maker will use this information for competitive advantage and for enterprise growth. The objective of the Master of Science in Business Intelligence & Analytics Program (MSBIA) in the Haub School of Business at Saint Joseph's University is to provide the student with an enhanced foundation in both information technology and quantitative decision-making tools.

MS Business Intelligence (MSBI) Learning Goals and Objectives

Stakeholder Value/Functional: Students will demonstrate understanding of the concept of the value of *decision and systems technologies*. It is critical for the competent professional to apply their competencies within a focused environment.

Problem Solving/Critical Thinking: To develop *critical thinking skills*, that is, the process of conceptualizing, applying, analyzing, synthesizing, and/or evaluating information as the basis for solving problems and making decisions.

Interpersonal/Communication skills: To enhance the *interpersonal skills* needed for success within organizations, including an understanding of self and others, and to build productive teams. Students will demonstrate the ability to correspond effectively and persuasively in a business format, communicate effectively with individuals and within teams, and present to both individuals and groups clearly and persuasively.

Ignatian Values: An appreciation for and ability to apply the Ignatian values of: a commitment to rigorous education and lifelong learning; an insistence upon ethical decision making; a desire for social justice; and a care and concern for others.

Program-Specific I - Operations Analysis: *The ability to develop business models for forecasting and business analysis.* This requires the understanding of organizational flows of information and control and the impacts that these flows have on operations.

Program-Specific II - Technical skills: *Technical competence in decision and system technologies.* As technologies develop, the successful user and manager of these technologies must be constantly aware of developments in these areas.

Program-Specific III - Enterprise Thinking: *Integrated viewpoints of the enterprise.* The understanding of how the pieces fit together for a complete organization provides the alternative views necessary to maximize overall organizational goals as well as functional area needs.

Admission Requirements and Procedures

In setting the admissions criteria for the MSBIA Program, the intent is to accept only those students who have a high probability of successfully completing the program in Business Intelligence at Saint Joseph's University.

Criteria

- A completed application form
- Non-refundable $35 application fee
- Official transcripts indicating receipt of a baccalaureate degree from an accredited college or university.
- Official GMAT or GRE scores taken within five years of application. Waivers are available for certain master's degrees and professional certifications. Contact the Program Director for further details.
- Two (2) letters of recommendation from former professors and/or employers
- A written statement of academic or career goals
- An affidavit of financial support and evidence of English proficiency for international applicants
- A current resume

International applicants are no longer required to submit a credentials evaluation. Transcript evaluations will be performed by the Graduate Operations staff. However, applicants already possessing a course-by-course evaluation of their transcripts are encouraged to submit this, along with original transcripts. For those who do not possess a course-by-course evaluation, an official record of all college and university academic

studies and results of state and/or national examinations taken are required. Academic records must include the name of each individual course, the grade earned, and the grading scale used. Documents must be submitted in one's native language with an official English translation. Foreign documents, credentials, and transcripts must be official (sealed and sent directly from the institution). Only originals or photocopies officially stamped and attested by a school official (Registrar, Principal, or Controller of Examinations) are accepted. Faxes, scanned, or notarized copies or copies attested by a department head cannot be accepted as official. All credentials submitted to the Graduate Operations Office become property of the University and cannot be returned.

International applicants whose native language is not English are required to take the Test of English as a Foreign Language (TOEFL). A minimum score of 550, internet based TOEFL 80, or 213 on computerized test on the TOEFL is required to take any course in the Program. An official IELTS score of 6.5 or official PTE score of 60 is also acceptable. Foreign applicants seeking an F-1 student visa must also supply a statement of financial support.

Retention Processes and Policies

Statistics Proficiency
All students in the MSBIA Program must demonstrate proficiency in statistics prior to the start of their second course in the program. Students with strong statistical background may apply for a waiver, otherwise the proficiency is achieved through an online learning module (ALEKS). Students must complete 100% of this module before their second course. Further details can be obtained from the MSBIA Program Director or Academic Coordinator.

Grading, Probation, Dismissal, and Failure
The grading system in effect at SJU will apply to courses in the M.S. Program. Student advising will be the responsibility of the Program Director, but students are encouraged to share their academic and career expectations with members of the faculty who teach in the program.

As per the university guidelines for graduate study, students enrolled in the M.S. in Business Intelligence who receive a single grade of C or below for three (3) credit hours will be issued a warning. Students who receive a grade of C or below for six (6) credit hours will be placed on academic probation and will be so notified in

writing by the Program Director. Students receiving a grade of C or below for nine credit hours will be dismissed from the program.

To graduate, students must fulfill all credit hour requirements for the M.S. degree. Each candidate for graduation must have at least 3.0 cumulative GPA, no more than two grades below a B, and no F grades outstanding in order to be certified for graduation.

Retention Processes and Policies
Students enrolled in the M.S. in Business Intelligence & Analytics Program have six years to complete their M.S. degree from Saint Joseph's University. This six-year limit begins with the student's first core course. Extensions beyond this limit may be made only with the approval of the Program Director, and only for unusual and serious circumstances.

Students who exceed the time limit to complete the M.S. Program will be dismissed from the program. Such students must reapply for admission into the program as new students and start the program with no credit from previous courses taken.

Graduation/Commencement Policies
Students must complete all course requirements prior to graduation. Upon petition to the Program Director and the Office of the Registrar, students may be permitted to take part in commencement exercises if they will be completing their graduate studies by August.

Curriculum
The MSBIA degree requires completion of 30 credits with a cumulative GPA of 3.0 or better in courses taken at SJU. Prerequisites or co-requisites are required for core courses listed below and are met through the scheduled course sequence.

Program Courses

DSS 600	Foundations for Business Intelligence
DSS 610	Business Analytics for BI
DSS 620	Concepts and Practice of DSS Modeling
DSS 630	Database Management Theory and Practice
DSS 640	Enterprise Data
DSS 650	Business Process Modeling & Analysis
DSS 660	Introduction to Data Mining
DSS 670	Critical Performance Management
DSS 680	Predictive Analysis
DSS 690	Management Issues in Business Intelligence

SAS Certificate
The SAS Institute has endorsed the Master of Science in Business Intelligence & Analytics Program within the Haub School of Business and presents those who completed its program with a Business Intelligence Certificate, certified by SAS. This certificate will be issued to students who graduate from the MSBIA Program after January 2011 and successfully complete DSS 600 through and including DSS 680.

Other Program Options
The Erivan K. Haub School of Business offers a Certificate Program in Business Intelligence. This program is available on-campus only and offers 12 graduate credits in such courses as: Foundations for Business Intelligence, Developing Decision Making Competencies, Six Sigma, or Contemporary Information Technology. Interested applicants and students should contact the Director of the MSBIA Program for more details.

Inquiries
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For online Program: www.sju.edu-online.com

Business Intelligence Core Course Descriptions
DSS 600 Foundations for Business Intelligence (3 credits)
This course is intended to provide an integrative foundation in the field of business intelligence at the operational, tactical, and strategic levels. Topics such as value chain, customer service management, business process analysis and design, transaction processing systems, management information systems, and executive information systems will be covered, along with other topics relevant to the field of business intelligence.

DSS 610 Business Analytics for BI (3 credits)
The aim of this course is to provide the student with an understanding of several management science techniques and to provide some insight into how these tools may be used to analyze complex business problems and arrive at a rational solution. The techniques to be studied are forecasting, linear programming, simulation and modeling. Cases of increasing complexity will be used to emphasize problem description, definition, and formulation. The computer will be used extensively throughout this course, primarily by using available programs to perform the calculations after the problem has been correctly formulated. In addition, we will examine the future of analytics. Emphasis will be placed on the interpretation and implementation of results. *Prerequisite: DSS 600.*

DSS 620 Concepts and Practice of DSS Modeling (3 credits)
Building on the background of prior coursework this course will extend the use of spreadsheet modeling and programming capabilities to explore decision models for planning and operations using statistical, mathematical, and simulation tools. *Prerequisite or co-requisite: DSS 610*

DSS 630 Database Management Theory and Practice (3 credits)
Business Intelligence rests on the foundation of data storage and retrieval. In this course, students will be presented with the theory of operational database design and implementation. The concepts of normalization, database queries and database application development will be introduced using contemporary tools and software for program development. *Prerequisite or co-requisite: DSS 620*

DSS 640 Enterprise Data (3 credits)
Traditional database design concentrates on the functional areas of business and their database needs. At the strategic and value-chain levels we look at data across the enterprise and over time. The issues of Enterprise Data in the Data Warehouse, Data Marts, Enterprise Resource Planning (ERP), Supply Chain Management (SCM), Customer Relationship Management (CRM), Online Analytical Processing (OLAP) and the concepts of Data Mining will be surveyed in this course.
Prerequisite or co-requisite: DSS 600, DSS 610, DSS 630, DSS 620

DSS 650 Business Process Modeling & Analysis (3 credits)
Using the case study approach in combination with contemporary software tools, students will apply the concepts of business process analysis and design, quality control and improvement, performance monitoring through performance dashboards and balanced scorecards and process

simulation. *Prerequisite or co-requisite: DSS 600, DSS 610, DSS 620, DSS 630*

DSS 660 Introduction to Data Mining (3 credits)
This course will extend the concepts of data mining to an exploration of a contemporary Data Mining toolset on a large, live dataset. In this course, students will be encouraged to find the patterns in the data and to prepare reports and presentations describing the implications of their findings.
Prerequisite or co-requisite: DSS 600, DSS 610, DSS 620, DSS 630, DSS 640.

DSS 670 Critical Performance Management (3 credits)
This course integrates the concepts of decision support, database management, critical performance measurement, and key performance indicators through the practical application development of performance dashboards. When completed, students will be able to design department level, user-oriented applications that capture data from transaction processing systems and present that data for business users in decision-compelling format. *Prerequisite or co-requisite: DSS 600, DSS 610, DSS 620, DSS 630, DSS 650, DSS 660.*

DSS 680 Predictive Analytics (3 credits)
This course extends the data mining process to the predictive modeling, model assessment, scoring, and implementation stages. In this course, professional data mining software and small and large data sets will be used to effectively analyze and communicate statistical patterns in underlying business data for strategic management decision making. *Prerequisite or co-requisite: DSS 600, DSS 610, DSS 620, DSS 630, DSS 640, DSS 650, DSS 660.*

DSS 690 Management Issues in Business Intelligence (3 credits)
A critical success factor in business intelligence is the ability to communicate one's analysis and recommendations to decision-makers. This course will direct students on the importance of effective communication, as well as allow students to explore their individual areas of interest as it applies to the business intelligence and analytics field.
*Prerequisites or co-requisites are fulfilled through the scheduled MSBIA course sequence.