Information Systems and Business Analytics

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Mission

The mission of the Department of Information Systems and Business Analytics (ISBA) is to provide students with the knowledge and ability to design, develop, implement, and use information systems that allow organizations to effectively solve problems within organizations; and to provide students with the knowledge and ability to analyze and use data for decision-making within organizations. The department offers courses in business analytics, business statistics, health informatics, information security, management information systems, operations management, and project management at both the graduate and undergraduate levels.

Curriculum Educational Objectives

By graduation, students are expected to be able to:
1. Recognize and analyze business problems and opportunities, apply systems development methodologies to elicit and analyze customer requirements.
2. Propose information systems-based solutions that are technically sound, economically feasible, and organizationally viable.
3. Communicate, orally and in writing, information systems solutions to the various stakeholders.
4. Use information systems to provide customers with the data, information, and knowledge to make decisions.
5. Develop state of the art information technology skills in the contemporary and emerging dynamic and complex business environment.
6. Collaborate in a team to participate in or manage complex information-based business projects.

BBA in Business Analytics

Undergraduate business students opting to pursue a BBA in Business Analytics (BA) will gain a solid foundation in the application of statistical methods, techniques, and tools to analyze large data sets. The Business Analytics program provides students with the background needed to apply statistical methods and techniques through use of decision support systems (DSS), expert systems (ES), business intelligence (BI) reporting tools, and business analytics (BA) data mining tools. Graduates will be prepared for entry-level business analytics and reporting positions.

Degree Program Requirements (120 credit hours)

Lower-Division/Business Pre-Core	60 hours
Upper-Division/Business Core	27 hours
Major Courses	21 hours
Electives	12 hours

Lower Division/ Business Pre-Core
The "General Information" section in this catalog describes the lower division and business pre-core requirements.

Upper Division/Business Core
The College's Business Core Requirements are listed in the first section of this "College of Business" chapter.

Major Courses
Students are required to complete all of the following Major Courses (18 credit hours)

ISM 4151	Managing Digital Services and Innovation	3
ISM 4210	Data Base Applications	3
ISM 4211	Database Systems and Physical Design	3
ISM 4400	Managerial Information Analysis	3
ISM 4402	Business Intelligence and Reporting	3
ISM 4420	Business Analytics	3

Students are also required to complete one of the following courses (3 credit hours).

ISM 4314	Project Management	3
	or	

MAN 4583	Project Management	3

Electives

Students may complete any electives (12 credits). Recommended Department of Information Systems and Business Analytics electives include the following:

HIM 4656	Health Information Systems Management	3
ISM 3153	Business Process Analysis	3
ISM 3230	Business Application Development	3
ISM 3949	Information Systems Internship II	1-3
ISM 4053	Interface Design for Business Applications	3
ISM 4054	Web Application Development	3
ISM 4113	Systems Analysis and Design	3
ISM 4154	Business Application Integration	3
ISM 4220	Business Telecommunication Systems	2
ISM 4323	Information Systems Security	1
ISM 4340	Organizational Impacts of Information Systems	3
ISM 4949	Information Systems Internship II	1-3

Academic Standards

To progress into upper-division Business Analytics Major courses, students must complete the seven lower division Business Common Prerequisite Courses (21 credit hours) with (1) a C or better (2) in two attempts or fewer, and with (3) a GPA of 2.5 or greater for the set of seven courses. These seven courses (21 credit hours) include, six credit hours of accounting; six credit hours of economics; three credit-hours of business calculus; three credit-hours of business statistics; and three credit-hours of computer applications. Drops after the add/drop period, which result in a DR grade, are considered an attempt in the course and count as an unsuccessful enrollment. Further, it is also strongly recommended that all students pursuing a BBA in Business Analytics (BA) join the student chapter of the Association for Information Systems (AIS at FIU) and participate actively in organization sponsored events.

BBA in Information Systems

Undergraduate business students opting to pursue a BBA in Information Systems (IS) will gain a solid foundation in the design, use, and management of databases, enterprise systems, information security and telecommunications technology. The IS program provides students with the background needed to give informational support for decision-making through business analytics and to understand complex project management initiatives.

Graduates will be prepared for entry-level positions in the information systems field, either in user- or system-oriented departments.

Degree Program Requirements (120 credit hours)

Lower-Division/Business Pre-Core	60 hours
Upper-Division/Business Core	27 hours
Major Courses	21 hours
Electives	12 hours

Lower Division/ Business Pre-Core

The "General Information" section in this catalog describes the lower division and business pre-core requirements.

Upper Division/Business Core

The College's Business Core Requirements are listed in the first section of this "College of Business" chapter.

Major Courses

Students are required to complete all of the following Major Courses (18 credit hours).

ISM 3153	Business Process Analysis	3
ISM 3230	Business Application Development	3
ISM 4113	Systems Analysis and Design	3
ISM 4151	Managing Digital Services and Innovation	3
ISM 4210	Database Applications	3
ISM 4220	Business Telecommunication Systems	2
ISM 4323	Information Systems Security	1

Students are also required to complete one of the following courses (3 credit hours).

ISM 4314	Project Management	3
	or	
MAN 4583	Project Management	3

Electives

Students may take any four electives (12 credits). Recommended Department of Information Systems and Business Analytics electives include the following:

ISM 3949	Information Systems Internship I	3
HIM 4656	Health Information Systems Management	3
ISM 4053	Business Interface Design	3
ISM 4054	Web Application Development	3
ISM 4154	Business Application Integration	3
ISM 4211	Database Systems and Physical Design	3
ISM 4340	Organizational Impacts of Information Systems	3
ISM 4400	Managerial Information Analysis	3
ISM 4402	Business Intelligence and Reporting	3
ISM 4420	Business Analytics	3
ISM 4949	Information Systems Internship II	1-3

Academic Standards

The Department of Information Systems and Business Analytics (ISBA) requires that students receive a grade of "C" or higher in all major courses, and a passing grade in business electives in order to remain in the degree program. Students pursuing an Information Systems (IS) degree must earn a grade of "C" or higher in ISM 3230. This course cannot be attempted more than twice. Drops after the add/drop period, which result in a DR grade, are considered an attempt in the course and count as an unsuccessful enrollment. Further, it is also strongly recommended that all students pursuing a BBA in Information Systems (IS) join the student chapter of the Association for Information Systems (AIS at FIU) and participate actively in organization sponsored events.

Business Analytics Track

The Department of Information Systems and Business Analytics (ISBA) offer a Business Analytics Track to students pursuing a degree in Information Systems (IS). The track focuses on developing the essential skills required to pursue careers such as big data, or quantitative data analysts. As public and private entities accumulate ever-increasing stores of data assets, their ability to efficiently and effectively analyze such assets constitutes a key core competency. Students pursuing the

track will specialize in the application of statistical methods, techniques, and tools to large data sets proliferating across organizations, in an effort to address persistent and evolving business problems. Student will gain hands on experience applying statistical methods and techniques through use of decision support systems (DSS), expert systems (ES), business intelligence (BI) reporting tools, and business analytics (BA) data mining tools. The Business Analytics Track consists of 7 courses (21 credit hours). Students with a declared second major in Business Analytics may not pursue the IS with Business Analytics Track. Additionally, students pursuing a Minor in Business Analytics may not pursue the IS with Business Analytics Track. Students are required to receive a grade of "C" or higher in each course.

Required Track Courses

Students are required to complete all four of the following Major Courses (12 credit hours).

ISM 4151	Managing the Digital Services and Innovation	3
ISM 4210	Database Applications	3
ISM 4400	Managerial Information Analysis	3
QMB 3200	Business Statistics and Analysis I	3

Students are required to complete all three of the following Upper Division Business Electives (9 credit hours).

ISM 4211	Database Systems and Physical Design	3
ISM 4402	Business Intelligence and Reporting	3
ISM 4420	Business Analytics	3

Business Information Security Track

The Department of Information Systems and Business Analytics (ISBA) offer a Business Information Security Track to students pursuing a degree in Information Systems (IS). The track focuses on developing the key skills needed to pursue careers as information security, or cyber-security analysts or specialists within modern business organizations. Information security analysts plan, implement, and monitor security measures to protect organizations' information systems and key data assets. Given the ever-increasing number of incidents plaguing business organizations, their responsibilities are continually expanding and changing. The Business Information Security Track consists of 8 courses (21 credit hours). Students are required to receive a grade of "C" or higher in each course.

Required Track Courses

Students are required to complete all of the following Major Courses (9 credit hours).

ISM 4113	Systems Analysis and Design	3
ISM 3230	Business Application Development	3
ISM 4220	Business Telecommunication Systems	2
ISM 4323	Information Systems Security	1

Students are also required to complete one of the following courses (3 credit hours).

ISM 4314	Project Management	3
	or	
MAN 4583	Project Management	3

Students are required to complete all three of the following Upper Division Business Electives (9 credit hours).

EEL 4806	Ethical Hacking and Countermeasures	3
EEL 4802	Introduction to Digital Forensics	
	Engineering	3
EEL 4804	Introduction Malware Reverse Engineering	3

Business Systems Track

The Department of Information Systems and Business Analytics (ISBA) offer a Business Systems Track to students pursuing a degree in Information Systems (IS). The track focuses on developing the necessary skills required to pursue careers as business/systems analysts within IS departments or consulting organizations. Systems analysts study organizations' current information and computer systems as well as procedures, subsequently designing information systems solutions that help organizations operate more efficiently and effectively. These professionals bring business and information technology together by understanding the needs and limitations of both. The Business Systems Track consists of 7 courses (21 credit hours). Students are required to receive a grade of "C" or higher in each course.

Required Track Courses

Students are required to complete all of the following Major Courses (9 credit hours).

ISM 3230	Business Application Development	3
ISM 4113	Systems Analysis and Design	3
ISM 4220	Business Telecommunication Systems	2
ISM 4323	Information Systems Security	1

Students are also required to complete one of the following courses (3 credit hours).

ISM 4314	Project Management	3
	or	
MAN 4583	Project Management	3

Students are required to complete all three of the following Upper Division Business Electives (9 credit hours).

ISM 4053	Interface Design for Business Applications	3
ISM 4054	Web Application Development	3
ISM 4154	Business Application Integration	3

Combined BBA in Business Analytics /Master of Science in Information Systems - Business Analytics Track Degree Pathway (BA/MSIS-BA)

The Combined Bachelor of Business Administration in Business Analytics /Master of Science in Information Systems – Business Analytics Track Degree Pathway (BA/MSIS-BA) is designed for outstanding undergraduate students interested in continuing studies beyond their baccalaureate degree. The pathway provides a strong base of knowledge and skills in business analytics, and at the same time accelerates completion of the Master of Science in Information Systems degree. Students may take advantage of the overlap of courses in the BA and MSIS-BA programs to receive their MSIS degree in a shorter period than might otherwise be possible.

A student admitted to the Degree Pathway will be considered to have undergraduate status until conferral of their BBA in Business Analytics degree. Upon conferral of their undergraduate degree, the student will be granted graduate status.

Admission Requirements

1. Students must be enrolled in the BBA in Business Analytics (BA) degree program.
2. Students must have completed at least 75, but no more than 90, credits of coursework.
3. Students must have completed ISM 4400 or equivalent with a B or better.
4. Students must have an overall (transfer and FIU) GPA of 3.34 or higher.
5. Students must have two letters of recommendation, with at least one from a member of the FIU Department of Information Systems and Business Analytics.

General Requirements

1. Students must maintain a GPA of 3.0 or greater to remain in the Degree Pathway.
2. BBA in Business Analytics (BA) degree must be awarded before the Master of Science in Information Systems – Business Analytics Track degree.
3. No grade below "C" will be accepted in any course taken to satisfy graduate program requirements.
4. Grade requirements for the Master of Science Information Systems – Business Analytics Track apply to courses counted toward the Master of Science Information Systems – Business Analytics Track degree.
5. Up to 4 courses (12 credits) may be used in satisfying both the BBA in Business Analytics and Master of Science in Information Systems – Business Analytics Track degree requirements.
6. Students must fulfill the degree requirements of both the BBA in Business Analytics and Master of Science in Information Systems – Business Analytics Track degree programs, with all overlapping courses approved by both graduate program director and undergraduate advisors before students enroll in such courses.

Combined BBA in Information Systems/Business Information Security Track/Master of Science in Information Systems/Business Cybersecurity Track Degree Pathway (BIS/MSIS-Cybersecurity)

The Combined Bachelor of BBA in Information Systems/Business Information Security Track/Master of Science in Information Systems/Business Cybersecurity Track Degree Pathway (BIS/MSIS-Cybersecurity) is designed for outstanding undergraduate students interested in continuing studies beyond their baccalaureate degree. The Degree Pathway provides a strong base of knowledge and skills in business cybersecurity, and at the same time accelerates completion of the Master of Science in Information Systems/Business Cybersecurity Track degree. Students may take advantage of the overlap of courses in the Bachelor of Business Administration in Information Systems/ Business Information Security Track and MSIS/Business Cybersecurity Track programs to receive their

MSIS/Business Cybersecurity Track degree in a shorter period than might otherwise be possible.

A student admitted to the Degree Pathway will be considered to have undergraduate status until conferral of their BBA in IS/Business Information Security Track degree. Upon conferral of their undergraduate degree, the student will be granted graduate status.

Admission Requirements

1. Students must be enrolled in the BBA in Information Systems/ Business Information Security Track degree program.
2. Students must have completed at least 75, but no more than 90, credits of coursework.
3. Students must have completed ISM 4220 and ISM 4323 with a B or better.
4. Students must have an overall (transfer and FIU) GPA of 3.34 or higher.
5. Students must have two letters of recommendation, with at least one from a member of the FIU Department of Information Systems and Business Analytics.

General Requirements

1. Students must maintain a GPA of 3.0 or greater to remain in the Degree Pathway.
2. BBA in Information Systems / Business Information Security Track degree must be awarded before the Master of Science in Information Systems/Business Cybersecurity Track degree.
3. No grade below "C" will be accepted in any course taken to satisfy graduate program requirements.
4. Grade requirements for the Master of Science in Information Systems/Business Cybersecurity Track apply to courses counted toward the Master of Science in Information Systems/Business Cybersecurity Track degree.
5. Up to 4 courses (12 credits) may be used in satisfying both the BBA in Information Systems/ Business Information Security Track and Master of Science in Information Systems/Business Cybersecurity Track degree requirements.
6. Students must fulfill the degree requirements of both the BBA in Information Systems/ Business Information Security Track and Master of Science in Information Systems/Business Cybersecurity Track degree programs, with all overlapping courses approved by both graduate program director and undergraduate advisors before students enroll in such courses.

Minor in Business Analytics (12 credits)

The Department of Information Systems and Business Analytics (ISBA) offers a Minor in Business Analytics to non-Business Analytics majors (IS). Additionally, Information Systems (IS) majors with a track in Business Analytics may not pursue a Minor in Business Analytics. The minor affords students the opportunity to learn about the application of statistical methods and techniques through decision support systems (DSS), expert systems (ES), business intelligence (BI) reporting tools, and business analytics (BA) data mining tools. As both public

and private sector organizations accumulate ever-increasing stores of data, their ability to apply quantitative techniques and tools constitutes an essential skill. While the application of such techniques has historically focused on accounting and financial data, marketing and other fields are increasingly analyzing data to drive new business models and achievement of competitive advantages. Students are required to receive a grade of "C" or higher in each course.

Required Courses

Business students are required to complete the following course (3 credit hours).

QMB 3200	Business Statistics and Analysis I	3

Non-business students are required to complete one of the following four courses (3 credit hours).

ECO 3410	Measurement and Analysis of Economic Activity	3
STA 3033	Introduction to Probability and Statistics for CS	3
STA 3112	Statistics II	3
STA 3123	Statistics for Behavioral and Social Sciences II	3
STA 3145	Statistics for the Health Professions	3
STA 3164	Statistical Methods II	3

All students are required to complete all three of the following courses (9 credit hours).

ISM 4400	Managerial Information Analysis	3
ISM 4402	Business Intelligence and Reporting	3
ISM 4420	Business Analytics	3

Minor in Project Management (12 credits)

The Department of Information Systems and Business Analytics (ISBA) offers a Minor in Project Management to non-Information Systems (IS) majors. The minor affords students the opportunity to acquire project management skills. As the fundamental process project enterprises employ to organize and manage numerous initiatives, project management skills allow business professionals to succeed in many different fields. Accordingly, the Minor in Project Management is open to all students to help them develop a set of basic skills to effectively manage projects in their professional lives. Students are required to receive a grade of "C" or higher in each course.

Required Courses

Business students are required to complete the following course (3 credit hours).

ACG 3301	Managerial Accounting	3

Non-business students are required to complete the following course (3 credit hours).

ACG 3024	Introduction to Accounting for Managers and Investors	3

All students are required to complete one of the following courses (3 credit hours)

ISM 4314	Project Management	3
	or	
MAN 4583	Project Management	3

All students are required to complete both of the following courses (6 credit hours).

ISM 3153	Business Process Analysis	3
ISM 4113	Systems Analysis and Design	3