Information Systems and Business Analytics

Monica Chiarini Tremblay, Chair and Associate Professor
Dinesh Batra, Professor and Knight Ridder Research Fellow
Lina Bouaya, Assistant Professor
Karlene Cousins, Associate Professor and Academic Director, MS in Information Systems
David Darcy, Assistant Professor
Gloria Deckard, Associate Professor and Academic Director, MS in Health Informatics and Analytics
Joyce J. Elam, Dean Emerita
S. Christopher Ellis, Instructor
Pouyan Esmaiel Zadeh, Visiting Assistant Professor
Paulo J. Gomes, Visiting Assistant Professor
Manjul Gupta, Assistant Professor
Sushil K. Gupta, Professor and Knight Ridder Research Fellow
Hyeyoung Hah, Assistant Professor
Attila J. Hertelendy, Instructor
Keum S. Kang, Assistant Professor
Richard Klein, Assistant Dean for Undergraduate Affairs, College of Business, Assistant Chair, Associate Professor and Knight Ridder Research Fellow
Christos P. Koulamas, Professor and Ryder Eminent Scholar
Kuldeep Kumar, Professor
George J. Kyparisis, Professor and Knight Ridder Center Research Fellow
George Marakas, Professor
Tala Mirzaei, Assistant Professor
Manoel Oliveira, Senior Lecturer
Peter Polak, Instructor
Gladys Simpson, Instructor
Hemang C. Subramanian, Assistant Professor
Zhili Tian, Assistant Professor
Debra Vander Meer, Associate Professor
Nicole Wishart, Senior Instructor
Weidong Xia, Associate Professor and Knight Ridder Center Research Fellow

Participating Adjunct Faculty
Susan Clemmons
Fernando Martinez
Jorge Rey

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 and use data for decision-making. The department offers courses in management information systems, management science, production and operations management, business analytics, and business statistics 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.

Management Information Systems Major

Undergraduate business students opting to major in Management Information Systems (MIS) will gain a solid foundation in the design, use, and management of databases, enterprise systems, information security and telecommunications technology. The major 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 MIS, 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          24 hours
Business Electives            9 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
ISM 3153 Business Process Analysis 3
ISM 3230 Business Application Development 3
ISM 4400 Management Support Systems 3
ISM 4210 Data Base Applications 3
ISM 4220 Business Telecommunication Systems 2
ISM 4113 Systems Analysis and Design 3
ISM 4151 Managing the IS Function and Technology Innovation 3
ISM 4323 Information Systems Security and Compliance 1
MAN 4583 Project Management 3

Upper Division Business Electives

Students may take three business electives (9 credits) among the following courses:

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 4402 Business Intelligence and Reporting 3
ISM 4420 Business Analytics 3
ISM 4340 Organizational Impacts of Information Systems 3
ISM 4949 Cooperative Education in Management Information Systems II 1-3

Additional courses offered by the department or College of Business or

All electives outside the College of Business must receive the approval of the Department Chair. A list of approved courses is available from COB advisors.

Business Analytics Track

The Department of Information Systems and Business Analytics (ISBA) offer a Business Analytics Track to students majoring in Management Information Systems (MIS). The track focuses on developing the essential skills required to pursue careers as big data, or qualitative, analysts. As public and private entities accumulate ever-increasing stores of data assets, their ability 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 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 IS Function and Technology Innovation 3
ISM 4210 Data Base Applications 3
ISM 4400 Management Support Systems 3
QMB 3200 Application of Quantitative Methods in Business 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 majoring in Management Information Systems (MIS). The track focuses on developing the key skills needed to pursue careers as information security, or cyber-security, analysis 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 four of the following Major Courses (12 credit hours).
ISM 3153 Business Process Analysis 3
ISM 3230 Business Application Development 3
ISM 4220 Business Telecommunication Systems 2
ISM 4323 Information Systems Security and Compliance 1
MAN 4583 Project Management 3

Students are required to complete all three of the following Upper Division Business Electives (9 credit hours).
EEL 4789 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 majoring in Management Information Systems (MIS). The track focuses on developing the necessary skills required to pursue careers as business/systems analysts within MIS 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 four of the following Major Courses (12 credit hours).
ISM 3153 Business Process Analysis 3
ISM 3230 Business Application Development 3
ISM 4220 Business Telecommunication Systems 2
ISM 4323 Information Systems Security and Compliance 1
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

Academic Standard

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 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. It is also strongly recommended that Management Information Systems majors join the student chapter of the Association for Information Systems (AIS at FIU) and participate actively in organization sponsored events.

**Minor in Business Analytics (12 credits)**

The Department of Information Systems and Business Analytics (ISBA) offers a Minor in Business Analytics to non-Management Information Systems (MIS) majors. 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 qualitative 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 turning 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**

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

- **QMB 3200** Application of Quantitative Methods in Business 3
- **ISM 4400** Management Support Systems 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-Management Information Systems (MIS) 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**

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

- **ACG 3024** Accounting for Managers and Investors 3
- **ACG 2021** Accounting for Decisions 3

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

- **ISM 3153** Business Process Analysis 3
- **ISM 4113** Systems Analysis and Design 3
- **MAN 4583** Project Management 3

**Certificate in Business Analytics (CBA)**

The Certificate in Business Analytics is designed for those who are interested in acquiring expertise and skills in the emerging area of business intelligence. Business Analytics (BA) is a term that refers to the set of technologies, tools and procedures used to collect, store, and share data to perform data analysis, produce reports and improve decision-making. This certificate is designed to help students acquire the expertise and set of skills needed to successfully manage and deliver BA, and to provide students an understanding of the business domain where BA is applicable. This certificate program is open to degree-seeking students only.

The core program consists of five required and one elective undergraduate business courses. Students who receive a grade of “C” or higher in all courses, will be presented with a Certificate in Business Analytics.

**The five required courses are:**

- **QMB 3200** Applications of Quantitative Methods in Business
- **ISM 4210** Data Base Applications
- **ISM 4400** Management Support System
- **ISM 4402** Business Intelligence and Reporting
- **ISM 4420** Business Analytics

**The one elective course for the Certificate in Business Analytics should be chosen from the following:**

- **MAR 4503** Consumer Behavior
- **MAR 4860** Customer Relationship Management
- **MAR 4613** Marketing Research I
- **MAR 4620** Marketing Research II
- **ISM 4054** Web Application Development
- **FIN 3403** Financial Management
- **FIN 4502** Securities Analysis
- **FIN 4594** Financial Software Applications

**Certificate in Project Management (CPM)**

The Certificate in Project Management is designed for those who are interested in acquiring expertise and skills in the growing discipline of project management. Since project is the basic unit through which companies organize and manage their business activities, project management skills translate directly to success for business professionals in all fields. Therefore, this certificate is designed to be open to all to help them acquire the set of basic expertise and skills to be able to effectively manage projects upon completion of the certificate. This certificate program is open to degree-seeking students only.

The core program consists of following four required and two electives undergraduate business courses. Students who receive a grade of "C" or higher in each of the courses, will be presented with a Certificate in Project Management.

**The four required courses are:**

- **MAN 4504** Operations Management
- **MAN 4583** Project Management
- **ISM 4113** System Analysis and Design
- **ISM 3153** Business Process Analysis
The two elective courses for the Certificate in Project Management should be chosen from the following:

- ISM 4151  Managing the IS Function and Technology Innovation
- MAN 4711  Business-Community Leadership
- MAN 4301  Human Resource Management
- MAN 4164  Leadership
- MAN 4064  Crisis Management
- MAN 4613  International Risk Assessment
- MAN 4120  Managing Virtual Teams