

Business Analytics and Information Systems, M.S.

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[Muma College of Business](#)

Department: School of Information Systems and Management

[Major Contacts, Deadlines, and Delivery Information](#)

Concentrations:

- Analytics and Business Intelligence
- FinTech
- Information Assurance

Also offered as:

- track under [Business Administration, Ph.D.](#) and application area in [Business Administration, M.B.A.](#)

The online global BAIS is a self-supporting program. Information on tuition and fees can be found [here](#).

Please note: With the exception of the Department of Children and Family (DCF) waivers, all other waivers (including State of Florida and USF employee) are not accepted for Self-Funded/Self-Supporting or Market Rate Tuition program courses. For additional information, visit: [USF Tuition Waiver](#).

The Master of Science (M.S.) in Business Analytics and Information Systems (BAIS) meets the needs of the marketplace for expertise in analytics, information technology and management. Highly qualified individuals with motivation for leadership in information technology and analytics are encouraged to apply for admission to this program. The major meets the needs of organizations in information services, software development, management consulting, and other sectors where data analytics is used in industry. An Advisory Board consisting of senior business analytics and information systems executives works closely with the department to ensure that the program stays relevant and maintains high standards.

Accreditation

Accredited by the AACSB International – The Association to Advance Collegiate Schools of Business.

Admission Information

Must meet University Admission and English Proficiency requirements, as well as requirements for admission to the major, listed below. Students are admitted to the M.S./BAIS program based on the evaluation of their application in its entirety, including:

- GMAT, GRE or other standardized scores for graduate programs (e.g. MCAT, LSAT).
 - For students with 3 years or more of relevant full-time work experience in Information Technology/ Information Systems/ Business Analytics in the region the program is offered, the requirement of standardized scores may be waived.
 - Students requesting such waivers should provide information justifying such waivers based on the above criteria. Additional documentation may be sought when deemed appropriate by the program.
- Two letters of recommendations.
- statement of purpose, and
- relevant work experience.
 - For applicants with a 3-year Bachelor's Degree from an accredited institution, the following requirements need to be met in addition to those listed above: Minimum GMAT score of 650 or a minimum GRE score of at least 321 (combined verbal and quantitative), and a minimum of 25th percentile in the verbal portion of the test. When the 3-year Bachelor's Degree is less than 120 hours from Non-Bologna Accord Institutions, a transcript evaluation from A NACES member is required to confirm equivalency.

Curriculum Requirements

Total Minimum Hours: 33 credit hours

- **Core Requirements– 12 credit hours**
- **Capstone – 3 credit hours**
- **Concentration or Electives – 18 credit hours**

The major requires 33 hours of coursework and may be taken either full-time or part-time. Full-time students with appropriate prerequisites may be able to complete the major in one full year (3 semesters) of study. Part-time students and full-time students who need prerequisites will typically need from 1 ½ to 3 years to complete the degree.

Prerequisites

Incoming students are expected to have the following as prerequisites

1. A course in high-level, object oriented programming language (e.g., C#, C++, Java and Python) or substantial programming experience;
2. A course in Information Systems Analysis and Design or equivalent experience;
3. A course in Database Systems or equivalent experience;
4. A course in Statistics or equivalent professional qualification or experiences
5. A course in economics, or equivalent professional qualification or experiences and
6. A course in financial accounting.

These required prerequisite courses may be taken simultaneously with courses in the M.S./BAIS major. Prerequisite courses do not count toward the 33 credit hours of course requirements in the M.S./BAIS major.

Core Requirements (12 Credit Hours)

The following four courses provide an understanding of the state-of-the-art in research and practice in technical areas of Information Systems Management.

- [ISM 6124 Advanced Systems Analysis and Design](#) **Credit Hours: 3**
- [ISM 6218 Advanced Database Management](#) **Credit Hours: 3**
- [ISM 6225 Distributed Information Systems](#) **Credit Hours: 3**
- [QMB 6304 Analytical Methods for Business](#) **Credit Hours: 3**

Capstone Course (3 Credit Hours)

This course is considered the capstone of the M.S./BAIS major and as such it must be taken during one of the last two semesters of the student's major.

- [ISM 6155 Enterprise Information Systems Management](#) **Credit Hours: 3**

Concentration or Elective Option

Students select from the following concentrations or complete 18 hours of electives.

Analytics and Business Intelligence Concentration (18 Credit Hours)

Students will have to complete four of the following courses (12 credit hours):

- [ISM 6136 Data Mining](#) **Credit Hours: 3 ***
- [ISM 6208 Data Warehousing](#) **Credit Hours: 3**
- [ISM 6137 Statistical Data Mining](#) **Credit Hours: 3 ***
- [QMB 7566 Applied Multivariate Statistical Methods](#) **Credit Hours: 3**
- [ISM 6642 Statistical Programming](#) **Credit Hours: 3 ***
- [ISM 6562 Big Data for Business](#) **Credit Hours: 3**

And a minimum of 1 credit hour of internship:

- [ISM 6945 Business Analytics and Information Systems Internship](#) **Credit Hours: 1-2**
(repeatable) (1 Credit hour required)

And five (5) credit hours from the Electives

In addition, graduate students who take the required four courses for this concentration and earn an average GPA of 3.00 or higher in these courses, will receive a SAS approved Certificate in Analytics and Business Intelligence, when they use a SAS analytics package (SAS Enterprise Miner or an equivalent SAS analytics package in the Data Mining, Statistical Data Mining and Statistical programming for Business Analytics courses, among other tools) as part of some of these courses. If students take at least one of the courses marked with a * as part of the analytics and business intelligence concentration, they will receive a SAS approved Certificate in Analytics and Business Intelligence.

FinTech Concentration (18 Credit Hours)

- [FIN 6406 Financial Management](#) **Credit Hours: 2**
- [ISM 6945 Business Analytics and Information Systems Internship](#) **Credit Hours: 1-2** repeatable
- [ISM 6930 Selected Topics in Management Information Systems](#) **Credit Hours: 1-6** taken as Fundamentals of FinTech (Proposed as FIN 6774) **Credit hours: 3**
- [FIN 6779 FinTech and Payment Technologies](#) **Credit Hours: 3**

And nine (9) credit hours as follows. Students opting to complete electives in lieu of a Concentration, complete 18 credit hours of electives as noted.

Any one course out of the following:

- [FIN 6246 The Financial System and FinTech Innovation](#) **Credit Hours: 3**
- [FIN 6416 Advanced Financial Management](#) **Credit Hours: 3**
- [FIN 6455 Financial Modeling and Analytics](#) **Credit Hours: 3**
- [FIN 6465 Financial Statement Analysis](#) **Credit Hours: 3**
- [FIN 6515 Quantitative Investments](#) **Credit Hours: 3**
- [FIN 6605 International Financial Management](#) **Credit Hours: 3**

Any two (2) courses out of the following

- [ISM 6136 Data Mining](#) **Credit Hours: 3**
- [ISM 6930 Selected Topics in Management Information Systems](#) **Credit hours 1-6** taken as Data Science Programming (3 Credit hours)
- [ISM 6562 Big Data for Business](#) **Credit Hours: 3**
- [ISM 6137 Statistical Data Mining](#) **Credit Hours: 3**
- [ISM 6642 Statistical Programming](#) **Credit Hours: 3**

Information Assurance Concentration (18 Credit Hours)

- [ISM 6328 Information Security & Risk Management](#) **Credit Hours: 3**
- [ISM 6577 Decision Processes for Business Continuity and Disaster Recovery](#) **Credit Hours: 3**
- [ISM 6945 Business Analytics and Information Systems Internship](#) **Credit Hours: 1-2** repeatable (1 credit hour required)

And any two courses (6 Credit hours) from the set of courses listed below:

- [ISM 6145 Seminar on Software Testing](#) **Credit Hours: 3**
- [ISM 6316 Project Management](#) **Credit Hours: 3**

and five (5) credit hours from the Electives

Electives (18 Credit Hours)

Students opting to complete electives in lieu of a Concentration, complete 18 credit hours of electives as noted:

Up to eighteen graduate level credits may be selected from additional Information Systems courses or (with prior approval by the academic advisor) other areas of specialization such as areas of Management, Decision Sciences, Computer Science, Logistics, etc. Existing Course Offerings:

- Other electives from across the campus may also be taken to meet the 33-credit hour requirement with prior approval of the academic advisor of the major.
- [ISM 6137 Statistical Data Mining](#) **Credit Hours: 3**
- [ISM 6145 Seminar on Software Testing](#) **Credit Hours: 3**
- [ISM 6155 Enterprise Information Systems Management](#) **Credit Hours: 3**
- [ISM 6136 Data Mining](#) **Credit Hours: 3**
- [ISM 6156 Enterprise Resource Planning and Business Process Management](#) **Credit Hours: 3**

- [ISM 6208 Data Warehousing](#) **Credit Hours: 3**
- [ISM 6251 Data Science Programming](#) **Credit Hours: 3**
- [ISM 6316 Project Management](#) **Credit Hours: 3**
- [ISM 6328 Information Security & Risk Management](#) **Credit Hours: 3**
- [ISM 6419 Data Visualization](#) **Credit Hours: 3**
- [ISM 6577 Decision Processes for Business Continuity and Disaster Recovery](#) **Credit Hours: 3**
- [ISM 6642 Statistical Programming](#) **Credit Hours: 3**
- [ISM 6905 Independent Study](#) **Credit Hours: 1-6** (Repeatable)
- [ISM 6945 Business Analytics and Information Systems Internship](#) **Credit Hours: 1-2** (Repeatable)
- [ISM 6930 Selected Topics in Management Information Systems](#) **Credit Hours: 1-6**

In addition, the following Special Topics are being offered:

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- [ISM 6930 Selected Topics in Management Information Systems](#) **Credit Hours: 1-6** (Multimedia Applications)
 - [ISM 6930 Selected Topics in Management Information Systems](#) **Credit Hours: 1-6** (Mainframe Technologies)
 - [ISM 6930 Selected Topics in Management Information Systems](#) **Credit Hours: 1-6 (Text Analytics) (3 Credit Hours) (3 Credit Hours)**
 - [ISM 6137 Statistical Data Mining](#) **Credit Hours: 3**

Practicum Option (1-6 Credit Hours)

The practicum option requires an investigation of a new information technology artifact. The project typically occurs in the student's place of employment and is jointly supervised by a faculty member and a manager in the company. One credit of [ISM 6905](#) would be taken for each semester that the student works on a project. The practicum would count for one to six hours of the 18 hours of BAIS electives.

Research/Project Option (1-3 Credit Hours)

The research/ project option requires working on an BAIS related project that involves research or community engagement. The project is supervised by a faculty member. One to two credits of ISM 6905 would be taken for each semester that the student works on a project. The research/ project option would count for one to three hours of the 18 hours of BAIS electives.

Comprehensive Exam

In lieu of a comprehensive exam, assessments comprising the capstone course ([ISM 6155](#)) fulfill the requirements for the comprehensive assessment in the program.

Graduate Certificate Options

Note that students in the Program can also obtain graduate certificates in (1) Compliance, Risk and Anti-Money Laundering and/or (2) Information Assurance by selecting elective courses suitably.