

13. MS BAIS 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.

MS BAIS Prerequisites Courses for incoming students:

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.

Students have the choice of two options:

On-Campus Option:

Designed for students who need flexibility in their course work, students will work early in the first semester with their major advisor to complete a formal Major Curriculum of Study meeting the Major Curriculum Requirements that will define a coherent sequence of courses to accomplish the student's objectives. Students have choice of electives as well as the option to complete a master's thesis or practicum project, depending upon the availability and approval of a faculty sponsor.

Executive Weekend Option:

Intended for full-time working Information Technology/Information Systems/Business professionals who will pursue this degree while remaining employed. Offered on a cohort basis, students will meet the Major Curriculum Requirements through a pre-determined set of courses, electives, and independent study options selected by faculty and noted on the formal Major Curriculum of Study, based on market needs and student profiles. Students will benefit from an accelerated curriculum with a managerial and leadership approach. To get the full benefit, applicants are expected to have a minimum of 5 years of relevant work experience.

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 OPTION REQUIREMENTS

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

ANALYTICS & BUSINESS INTELLIGENCE CONCENTRATION (18 CREDIT HOURS)

In addition to the Technical Core and Capstone courses, students must complete the following:

REQUIRED COURSES (12 CREDIT HOURS)

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 as part of some of these courses.

Specifically, graduate students will need to use, among other tools, SAS Enterprise Miner or an equivalent SAS analytics package in the Data Mining, Statistical Data Mining and Statistical programming for Business Analytics 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.

Students will have to complete four out of the following seven courses:

- **ISM 6136 Data Mining Credit Hours: 3 ***
- **ISM 6218 Advanced Database Management 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 for Business Analytics Credit Hours: 3 ***
- **ISM 6930 Selected Topics in MIS Credit Hours: 1-6 (3 credits for this program)**
- **ISM 6930 Selected Topics in MIS Credit(s): 1-6 (3 credits for this program) (Big Data and Ecommerce)**

ELECTIVES (6 CREDIT HOURS)

To complete the Analytics and Business Intelligence concentration, students will need to meet the 33 credit hour requirement for the MS in BAIS degree program by taking graduate level electives for the program. 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 program.

INFORMATION ASSURANCE CONCENTRATION (18 CREDIT HOURS)

In addition to the Technical Core and Capstone courses, students must complete the following:

REQUIRED COURSES (6 CREDIT HOURS)

- **ISM 6328 Information Security & Risk Management Credit Hours: 3**
- **ISM 6577 Decision Processes for Business Continuity and Disaster Recovery Credit Hours: 3**

ELECTIVES (6 CREDIT HOURS)

Any two elective courses from the set of courses listed below

- **ISM 6145 Seminar on Software Testing Credit Hours: 3**
- **ISM 6316 Project Management Credit Hours: 3**
- **ISM 6124 Advanced Systems Analysis and Design Credit Hours: 3**
- **ISM 6218 Advanced Database Management Credit Hours: 3**
- **ISM 6266 Software Architecture Credit Hours: 3**

ELECTIVES (6 CREDIT HOURS)

To complete the Information Assurance concentration, students will need to meet the 33 credit hour requirement for the MS in BAIS degree by taking graduate level electives for the major. 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 program.

ELECTIVES (18 CREDIT HOURS)

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:

- **ISM 6124 Advanced Systems Analysis and Design Credit Hours: 3**
- **ISM 6266 Software Architecture Credit Hours: 3**
- **ISM 6145 Seminar on Software Testing Credit Hours: 3**
- **ISM 6155 Enterprise Information Systems Management Credit Hours: 3**
- **ISM 6218 Advanced Database Management Credit Hours: 3**
- **ISM 6225 Distributed Information Systems Credit Hours: 3**
- **ISM 6305 Managing the Information System Function Credit Hours: 3**
- **ISM 6442 International Aspects of Information Science Credit Hours: 3**
- **ISM 6405 Informatics and Business Intelligence Credit Hours: 3**
- **ISM 6485 Electronic Commerce Credit Hours: 3**
- **ISM 6905 Independent Study Credit Hours: 1-6**
- **ISM 6945 BAIS Internship Credit Hours: 1**
- **ISM 6930 Selected Topics in MIS Credit Hours: 1-6**
- **ISM 6316 Project Management Credit Hours: 3**
- **ISM 6136 Data Mining Credit Hours: 3**
- **ISM 6208 Data Warehousing Credit Hours: 3**

- **ISM 6056 Web Application Development Credit Hours: 3**
- **ISM 6156 Enterprise Resource Planning & Business Process Management Credit Hours: 3**
- **ISM 6328 Information Security & Risk Management Credit Hours: 3**

IN ADDITION, THE FOLLOWING SPECIAL TOPICS ARE BEING OFFERED:

- **ISM 6930 Selected Topics in MIS Credit Hours: 1-6** (Multimedia Applications)
- **ISM 6930 Selected Topics in MIS Credit(s): 1-6** (Mainframe Technologies)
- **ISM 6137 Statistical Data Mining Credit Hours: 3**

THESIS OPTION (6 CREDIT HOURS)

The master's thesis option requires six credits of **ISM 6971**, which count as six of the 18 BAIS elective credits. The thesis must make a well-defined contribution to the research and development in an area of Information Systems.

- **ISM 6971 Thesis: Master's Credit Hours: 2-6**

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.