MANAGEMENT INFORMATION SYSTEMS

Management Information Systems is the analysis and use of information systems and technologies to support problem solving and decision making within and across organizations. Organizations and companies use data, most often in digital form, to conduct nearly every part of their businesses and functions. The program provides students with the core knowledge related to every dimension of information systems and technologies, including the creation and implementation of software and databases, to information security, analytics, and the user interface. The program takes a balanced approach with both technical and managerial coursework.

Undergraduate Major in Management Information Systems

For undergraduate curriculum in business, major in management information systems.

The Department of Information Systems and Business Analytics offers a major in management information systems. Students will complete the general education requirements (including business foundation courses), business core requirements for the bachelor of science (BS) degree, and 18 additional credits in the major.

The instructional objective of the Management Information Systems major is to prepare students for professional careers with a wide variety of firms and roles, ranging from small start-up firms to large multinational corporations. Common job titles include business analyst and systems analyst. Students are also pursuing careers in Information Technology consulting.

For more information on the undergraduate major in Management Information Systems, please visit: https://ivybusiness.iastate.edu/degree/management-information-systems/

Student Learning Outcomes

Upon graduation, undergraduate students majoring in Management Information Systems will:

1. Be effective communicators
2. Be effective collaborators
3. Be problem solvers
4. Understand business concepts
5. Recognize ethical and legal responsibilities to organizations

Curriculum:

In addition to the basic business degree requirements (https://catalog.iastate.edu/collegeofbusiness/#curriculuminbusinesstext) the

Management Information Systems major requires students to take 18 credit hours in the management information systems area, including 12 credit hours of required core courses and 6 credit hours of electives.

Required Courses (12 credits):

MIS 307	Intermediate Business Programming	3
MIS 310	Information Systems Analysis	3
MIS 320	Database Management Systems	3
MIS 340	Project Management	3

Elective Courses (6 credits):

Select 6 credits of MIS department courses from the list below:		
MIS 315	Business Data Streams and Issues	3
MIS 367	Consultative Problem Solving	3
MIS 368	Marketing Analytics	3
MIS 407	Advanced Business Programming	3
MIS 410X	Blockchain and Cryptocurrency	3
MIS 435	Information Systems Infrastructure	3
MIS 436	Introduction to Business Analytics [#]	3
MIS 440	Supply Chain Information Systems	3
MIS 441X	Cybersecurity Analytics	3
MIS 445	Enterprise Systems and Architecture	3
MIS 446	Advanced Business Analytics [#]	3
MIS 447	Information Systems Development	3
MIS 450	Enterprise Resource Planning Systems in Supply Chain	3
MIS 495	Case Practicum [*]	3

[#]   STAT 326 is a prerequisite for these courses.

[*]   Only 3 credits of MIS 495 may count as a Management Information Systems major choice elective.

NOTE: Management Information Systems majors must take MIS 207 Fundamentals of Computer Programming as part of the supporting courses.

The X designation after a course number indicates this is an experimental course offered by the Department. Although in an experimental phase, these courses are open for registration just the same as permanent courses listed in the course catalog and count as elective choices in the major.

Students are limited to three business majors/degrees/minors within the Ivy College of Business. This limit is on business majors/degrees/minors only, and does not apply to multiple majors/degrees/minors taken outside the Ivy College of Business.

Management Information Systems, B.S.

Sample 4-Year Plan (Your plan may differ)

Freshman

Fall	Credits	Spring	Credits
BUSAD 102 or 103	1	ECON 102	3
ECON 101	3	STAT 226	3
COM S 113	3	PHIL 230	3
ENGL 150	3	ACCT 284	3
MATH 150	3	Global/International Perspective@	3
LIB 160	1	BUSAD 203	1
	14		**16**

Sophomore

Fall	Credits	Spring	Credits
ACCT 285	3	MIS 307	3
MIS 301	3	SP CM 212 or 312	3
MIS 207	3	Natural Science	3
ENGL 250	3	HUM/SOC SCI	3
MATH 151	3	General Elective	3
	15		**15**

Junior

Fall	Credits	Spring	Credits
MIS 310	3	MIS 320	3
Business Core Courses	6	MIS 340	3
ACCT 215	3	Business Core Courses	6
US Diversity#	3	ENGL 302	3
	15		**15**

Senior

Fall	Credits	Spring	Credits
MIS Elective	3	MIS Elective	3
HUM/SOC SCI	3	HUM/SOC SCI	3
Global/International Perspective@	3	MGMT 478*	3
Business Core Courses	6	General Electives	6
General Electives	2		
	17		**15**

Total Credits: 122

@   Courses in these requirements may also be used as Global Perspective.

US Diversity courses may be used to satisfy HUM/SOC SCI.

*   Requires completion of all core courses except MGMT 372 plus senior standing.

Students must be admitted to the professional program in business to major in management information systems. The requirements to enter the professional program are:

1. Completion of at least 30 credits, Foundation Courses, ENGL 150, and all ENGL 101/99 courses if required.

2. A minimum GPA of 2.50 either cumulative or in the Foundation Courses. Early admission is allowed for Honors-eligible students. (See your advisor for specific information)

Graduation Requirements:

    1. Grade of "C" or higher in at least 30 credits of Core and Major courses.

    2. 42 credits of 300+ level courses from a four-year institution.

    3. 50% of required Business courses must be earned at ISU.

    4. At least 32 credits and the LAST 32 credits must be earned at ISU (exceptions for study abroad and internship may be requested).

    5. 122 Credits minimum and a Cumulative GPA of at least 2.00 with no quality point deficiencies.

    6. Grade of C or better in ENGL 250 required, and also in one other required ENGL course.

    7. All 300-level and higher business credits must be earned at a four-year college.

    8. Multiple business **majors** must have at least 15 distinct credits in each of the major requirements; when applicable, one course can be shared between business majors; see your advisor regarding multiple business **degree requirements**.

Undergraduate Minor in Management Information Systems

The Department of Information Systems and Business Analytics also offers a minor for non-Management Information Systems majors in the Ivy College of Business. The minor requires 15 credits from an approved list of courses, including at least 6 credits in courses numbered 300 or above taken at Iowa State University with a grade of C or higher. The minor must include at least 9 credits that are not used to meet any other department, college, or university requirement. Students with declared majors have priority over students with declared minors in courses with space constraints.

Required Course (3 credits):

MIS 301	Management Information Systems	3

Elective Courses (12 credits):

Select twelve credit hours from 300 or 400 level MIS courses *

* Only 3 credits of MIS 495 Case Practicum may count as a MIS minor choice elective.

Students are limited to three business majors/degrees/minors within the Ivy College of Business. This limit is on business majors/degrees/minors only, and does not apply to multiple majors/degrees/minors taken outside the Ivy College of Business.

For more information on the undergraduate minor in Management Information Systems, please visit: https://ivybusiness.iastate.edu/degree/zminors-and-certificates/

Graduate Programs

The Department of Information Systems and Business Analytics participates in the MS in Information Systems (MSIS), the full-time and part-time Master of Business Administration (MBA) and the PhD in Business and Technology programs. The department also participates in an interdepartmental MS in Cyber Security as well as in a master's and PhD program in Human Computer Interaction.

Master of Science Information Systems (MSIS)

The MSIS is a 30-credit (minimum) curriculum designed around three interrelated areas – business foundation, IS core, and electives. All students are expected to be familiar with basic computing skills before entering the program. The MSIS program will educate students on applying IS theory and concepts to modern IS development through classes that enable them to learn and use the latest software in application projects. Students graduating from the program will have advanced technical and managerial skills to develop and manage information systems projects.

Student Learning Outcomes

Upon graduation, MSIS students will:

1. Work effectively in teams
2. Be critical thinkers in the field of information systems
3. Develop an awareness of the ethical dimensions and consequences of business decisions
4. Have strong written communication skills
5. Have strong oral communication skills

For more information about the MSIS program, please visit: https://ivybusiness.iastate.edu/degree/msis/

Masters in Healthcare Analytics and Operations (MHAO)

Students graduating from the Masters in Healthcare Analytics and Operations program will apply data and appropriate models to analyze operations and supply chains to develop and present actionable insights leading to better outcomes in the healthcare industry. Healthcare analytics uses historical and current data to predict trends and optimize operations, bringing benefits to patients, medical professionals, and healthcare supply chain partners.

For more information about the Master of Healthcare Analytics and Operations program, please visit: https://www.ivybusiness.iastate.edu/degree/master-of-healthcare-analytics-and-operations/

Master of Business Administration (MBA)

The MBA program is a 48-credit, non-thesis, non-creative component curriculum. Thirty of the 48 credits are core business courses and the remaining 18 credits are graduate electives. Within the MBA program, students may obtain a specialization in information systems.

Student Learning Outcomes

Upon graduation, MBA students will:

1. Demonstrate effective communication skills
2. Effectively lead and work in diverse teams
3. Critically solve business problems
4. Integrate ethical and global perspectives in decision making

For more information about the MBA program with a specialization in Information Systems, please visit: https://ivybusiness.iastate.edu/degree/mba/

Ph.D. in Business and Technology

The PhD in Business and Technology is a 56-credit curriculum (minimum) which includes a 12-credit dissertation designed around four interrelated areas—core, specialization, minor, and research methods—and the dissertation. The Management Information Systems (MIS) specialization examines issues related to the development, building, management, and use of information and knowledge-based technologies. Such technologies enable users to collect organizational data, provide a platform for organizing and disseminating the data, and offer operational, decision support, and knowledge management tools through which users can leverage data and information for making better organizational decisions. Students in the MIS specialization will study areas such as information technology analysis and development, database and knowledge management systems, decision support and data mining, human computer interaction, system security and integrity, and project management and collaborative teamwork.

Student Learning Outcomes

Upon graduation, PhD students will be able to:

1. Understand and advance knowledge
2. Create knowledge through original research
3. Teach effectively in an institution of higher education

For more information about the PhD program with a specialization in MIS, please visit: https://ivybusiness.iastate.edu/degree/phd/phd-information-systems/

Graduate Certificates

Enterprise Cybersecurity Management

The graduate certificate in enterprise cybersecurity management will equip business professionals with basic concepts and techniques in cybersecurity and the management of information assets, including understanding cyber threat and choosing appropriate protections, enterprise cyber risk management, budgeting for cybersecurity, policies, procedures, human relations issues, and compliance and legal issues present in the modern organization.

The certificate is for working professionals as well as students enrolled in graduate programs. The certificate is available on campus in Ames and at Capital Square in Des Moines.

For more information about the graduate certificate in Enterprise Cybersecurity Management, please visit: https://ivybusiness.iastate.edu/cybersecurity-grad-certificate/

Business Analytics

The graduate certificate in business analytics will address the challenges of dealing with issues of "big data" and its analysis to extract actionable insights, equips business professionals with the basic analytic concepts and techniques necessary in various areas of business such as marketing, supply chain, operations, forensics, and risk management. Students will have a foundation in data management, business analytics, modeling, and communicating through data visualization.

The certificate is for working professionals as well as students enrolled in graduate programs who are employed or seeking a career as business analysts, analytic systems designers, and data scientists to help improve business performance. The certificate is available online, on campus in Ames and at Capital Square in Des Moines.

For more information about the graduate certificate in business analytics, please visit: https://ivybusiness.iastate.edu/ba-certificate/