BUSINESS ANALYTICS

We live in a day where we are overwhelmed with data. Today's companies are data-rich and information-poor (DRIP). Business analytics is the transformation of data into insights for better decision making. This transformation is iterative and multi-disciplinary. Business analytics falls at the intersection of technology, statistics, and business.

Students studying business analytics will gain the knowledge and skills necessary to understand and apply quantitative modeling techniques, design cross-functional solutions using standard and advanced business analytics technologies and software, evaluate data mining methods, communicate solutions using data visualizations, develop team and project management skills in a big data context, and effectively communicate analytical findings both orally and in writing.

Undergraduate Major in Business Analytics

For undergraduate curriculum in business, major in Business Analytics.

The Department of Information Systems and Business Analytics offers a major in Business Analytics. Students will complete the general education requirements (including business foundation courses), business core requirements for the bachelor of science (B.S.) degree, and 21 additional credits in the major.

The instructional objective of the business analytics major is to prepare students to realize the opportunities presented by data. This includes bringing structure to data, finding compelling patterns in data, communicating the stories buried in data, and advising decision-makers at all levels on the implications for processes and decisions through a data-driven approach.

Students are limited to three business majors/degrees within the Ivy College of Business, or a total of three business major/minors within the college. 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 major in Business Analytics, please visit: https://www.ivybusiness.iastate.edu/undergraduate/majors-minors/business-analytics/

Undergraduate Minor in Business Analytics

The Department of Information Systems and Business Analytics also offers a minor for non-Business Analytics 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 nine credits that are not used to satisfy any other department, college, or university requirement. Students with declared majors have priority over students with declared minors in courses with space constraints.

Required Courses (9 credits):

DS 201	Introduction to Data Science	3
MIS 320	Database Management Systems *	3
OR		
ACCT 384	Accounting Information Systems and Analytics *	
MIS 436	Introduction to Business Analytics	3

Elective Courses (6 credits):

Choose at least two 3-credit courses from the list below		
ACCT 484	Advanced Accounting Information Systems	3
FIN 450	Analytical Methods in Finance	3
MGMT 473X	Advanced Human Resource Management I	3
MIS 315	Business Data Streams and Issues	3
MIS 446	Advanced Business Analytics	3
MIS 368	Marketing Analytics	3
MKT 361	Social Media Marketing Strategy	3
MKT 367X	Consultative Problem Solving	3
MKT 445	Customer Relationship Management	3
SCM 430X	Supply Chain Analytics	3
SCM 460	Decision Tools for Logistics and Operations Management	3

* If both MIS 320 and ACCT 384 are taken, one will count for 3 elective credits in the minor.

Students are limited to three business majors/degrees within the Ivy College of Business, or a total of three business major/minors within the college. 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 Business Analytics, please visit: https://www.ivybusiness.iastate.edu/undergraduate/majors-minors/

Curriculum:

In addition to the basic business requirements, Business Analytics majors must also complete:

Required Courses (12 credits):

DS 201	Introduction to Data Science	3
MIS 320	Database Management Systems *	3
OR		
ACCT 384	Accounting Information Systems and Analytics *	

MIS 436	Introduction to Business Analytics	3
MIS 446	Advanced Business Analytics	3

Elective Courses (9 credits):

Select three courses from the following list:		
ACCT 484	Advanced Accounting Information Systems	3
FIN 450	Analytical Methods in Finance	3
MGMT 473X	Advanced Human Resource Management I	3
MIS 315	Business Data Streams and Issues	3
MIS 368	Marketing Analytics	3
MKT 361	Social Media Marketing Strategy	3
MKT 367X	Consultative Problem Solving	3
MKT 445	Customer Relationship Management	3
SCM 430X	Supply Chain Analytics	3
SCM 460	Decision Tools for Logistics and Operations Management	3

* If both MIS 320 and ACCT 384 are taken, one will count for 3 elective credits in the major.

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.

Business Analytics, 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	BUSAD 250	3
ENGL 150	3	Global/International Perspective[@]	3
MATH 150	3	ACCT 284	3
LIB 160	1	BUSAD 203	1
	14		**16**

Sophomore

Fall	Credits	Spring	Credits
ACCT 285	3	SP CM 212	3
HUM SOC/SCI	3	STAT 326	3
MATH 151	3	PHIL 230	3
ENGL 250	3	MIS 301	3
DS 201	3	Natural Science	3
ACCT 301 (1 cr if taking ACCT 384)			
	15		**15**

Junior

Fall	Credits	Spring	Credits
ACCT 215	3	MIS 436	3
MIS 320 or ACCT 384	3	Business Core Courses	6
Business Core Courses	6	Global/International Perspective[@]	3
US Diversity[#]	3	ENGL 302	3
General Electives (only 1 cr if ACCT 301 taken)	2		
	17		**15**

Senior

Fall	Credits	Spring	Credits
MIS 446	3	Business Analytics Elective	3
Business Analytics Electives	6	MGMT 478[*]	3
HUM SOC/SCI	3	General Electives	9
Business Core Course	3		
	15		**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.

* All core classes must be completed prior to taking MGMT 478 in the graduating semester.

Students must be admitted to the professional program in business to major in Business Analytics. 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 adviser 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. A 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 adviser regarding multiple business **degree requirements**.

Graduate Study

The master of business analytics (MBS) is an interdisciplinary program that addresses the challenges of dealing with data analytics and business intelligence in the "Big Data" environment. The goal is to develop managers who will master analytics in ways that lead to increased profits for their company. This blended program offers both online and face-to-face education in a comprehensive approach that draws from Business, Computer Science, Electrical and Computer Engineering, Statistics, and Industrial and Manufacturing Systems Engineering. It provides a foundation in data analytics project management, statistical and predictive modeling, consumer sentiment analysis, knowledge discovery, analytical reporting, segmentation analysis and data visualization. The program requires 30 credits of graduate level courses over a 21 month period. Students start the program with a one-week on-campus initiation class. Students then revisit campus once during the middle and once at the end of the program, while taking online classes during the rest of the time.

For more information about the Master of Business Analytics program, please visit: https://www.ivybusiness.iastate.edu/masters/business-analytics/

The Department of Information Systems and Business Analytics participates in the full-time and part-time Master of Business Administration (MBA) program. The MBA is a 48-credit, non-thesis, non-creative component curriculum. Thirty of the 48 credits are core courses and the remaining 18 are graduate electives. Within the MBA program, students may develop an area of specialization in Business Analytics.

For more information about the MBA program with a specialization in Business Analytics, please visit: https://www.ivybusiness.iastate.edu/masters/mba/

Graduate Certificate

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://www.ivybusiness.iastate.edu/masters/graduate-certificates/ (https://www.ivybusiness.iastate.edu/masters/graduate-certificates/business-analytics/)