Business Analytics (professional), MS

The digital revolution empowered by the internet and computer technology in business and individual life during the last several decades has generated unimaginable amounts of data in the form of digital records stored in databases and file servers. The volume, velocity, and variety of these data have produced a new set of problems and challenges for businesses and organizations in their pursuit of competitiveness, effectiveness, and efficiency. These problems and challenges also have created unprecedented opportunities for businesses and organizations to discover, model, understand, and serve their customers and partners in ways never imagined and to supply details never possible before. Businesses and organizations that are able to master this volume of data will have a tremendous competitive advantage over their competition in the marketplace.

As the need for business analytics grows, demand for professionals who understand and are capable of working with and exploring this data has exploded in recent years. This program addresses the growing need to manage and analyze the rapidly increasing amount of data that is available to support business decision-making.

Students in the part-time program take analytics and business elective courses online and may choose to take select business electives offered occasionally in-person through the Iowa MBA in Cedar Rapids or Des Moines.

Learning Outcomes

Graduates will exhibit knowledge and skills relevant to data and its applications in business. They will demonstrate competence in the subareas of:

- descriptive analytics;
- predictive analytics; and
- prescriptive analytics.

Graduates will create and communicate solutions to data-related business problems that impact their organizations and communities. They will:

- approach, address, and solve a loosely defined business problem requiring the use, exploration, and analysis of data; and
- communicate effectively through oral, written, and visual forms.

Graduates will understand and explore ethical and privacy issues related to the use of data in the modern world. They will:

- contemplate ethical and privacy issues arising in their own work; and
- express a working knowledge of the major ethical and privacy issues facing the business-analytics profession, supported with examples from current events.

Graduates will demonstrate the ability to be effective team members in a diverse and complex world. They will:

- engage in effective team processes; and
- lead and support others to achieve collective goals.

Requirements

The part-time Master of Science program in business analytics requires a minimum of 30 s.h. of graduate credit. A maximum of 6 s.h. of transfer credit may be accepted with approval from the program. Students who wish to include the 15 s.h. earned from the Certificate in Business Analytics toward the MS may do so as long as their coursework is not more than 10 years old from the date of the MS degree conferral. A major program grade-point average (GPA) and a cumulative GPA of at least 2.75 is required.

The MS with a major in business analytics requires the following coursework.

Requirements	Hours
Core Courses	15
Experience Course/Project	3
Electives	12

Some courses have prerequisites; students must complete all of a course's prerequisites before they may register for that course.

Core Courses

Course #	Title	Hours
All of these:		
BAIS:6040	Data Programming in Python	3
BAIS:6050	Data Management and Visual Analytics	3
BAIS:6070	Data Science	3
BAIS:9110	Advanced Analytics	3
One of these:		
BAIS:9100	Data and Decisions	3
MBA:8150	Data and Decisions	3

If a core course is waived, it must be replaced with an approved analytics elective.

Experience Course/Project

The experience course consists of a group project that solves a semester-long business problem. Students should take this course after they have completed the core courses and one elective course.

Course #	Title	Hours
This course:		
BAIS:6120	Analytics Experience	3

Electives

Elective coursework allows students to deepen or broaden their skills.

Course #	Title	Hours
12 s.h. from these:		
BAIS:6060	Data Analysis with R	3
BAIS:6100	Text Analytics	3
BAIS:6105	Social Analytics	3
BAIS:6110	Big Data Management and Analytics	3
BAIS:6130	Applied Optimization	3
BAIS:6140	Information Visualization	3
BAIS:6150	Financial Analytics	3
BAIS:6180	Healthcare Analytics	3

BAIS:6190	Forecasting	3
BAIS:6210	Data Leadership and Management	3
BAIS:6230	People Analytics	3
BAIS:6280	Cybersecurity	3
BAIS:9010	Contemporary Topics in Analytics	1-3
BAIS:9130	Lean Process Improvement	3
BAIS:9140	Agile Project Management	3
6 s.h. of the total 12 s.h. in electives may be taken from these:		
BAIS:9300	Innovations in Technology	3
ACCT:9020	Strategic Cost Analysis	3
ACCT:9040	Financial Statement Analysis and Forecasting	3
ENTR:9100	Entrepreneurship and Innovation	3
ENTR:9200	Entrepreneurial Finance	3
ENTR:9300	Design Thinking	3
ENTR:9450	Strategic Management of Technology and Innovation	3
ENTR:9500	Managing the Growth Business	3
ENTR:9700	Entrepreneurship: Business Consulting	3
FIN:9130	Corporate Risk Management and Insurance	3
FIN:9140	Enterprise Risk Management	3
FIN:9150	Financial Modeling and Firm Valuation	3
FIN:9200	Portfolio Management	3
FIN:9230	Real Estate Finance and Investments	3
FIN:9240	International Finance	3
FIN:9300	Corporate Investment and Financing Decisions	3
FIN:9310	Corporate Financial Strategy	3
FIN:9350	Wealth Management	3
MBA:8110	Marketing Management	3
MBA:8120	Management in Organizations	3
MBA:8130	Business Communication	3
MBA:8140	Corporate Financial Reporting	3
MBA:8160	Managerial Economics	3
MBA:8180	Managerial Finance	3
MBA:8240	Operations and Supply Chain	3
MBA:8300	Foundations in Strategy	3
MBA:8500	Seminar in International Business	3
MGMT:9090	Influence and Constructive Persuasion	3
MGMT:9091	Corporate Social Responsibility and Sustainability	3
MGMT:9092	Effective Managerial Communication	3
MGMT:9110	Dynamics of Negotiations	3
MGMT:9120	Leadership and Personal Development	3
MGMT:9130	Strategic Management of Change	3
MGMT:9185	Project Management	3
MGMT:9210	Law and Ethics	3
MGMT:9220	Maximizing Team Performance	3
MGMT:9230	Managing and Preventing Conflict	3
MGMT:9240	Inclusive Leadership	3
MGMT:9250	Managing Employee Performance	3
MGMT:9260	Strategic Employee Development	3
MGMT:9270	Human Resource Management	3
MGMT:9290	Global Business Management	3
MKTG:9015	Social Media Marketing	3
MKTG:9120	Customer Relationship Management	3
MKTG:9150	Brand Management	3
MKTG:9155	Digital Marketing Insights, Strategies, and Applications	3
MKTG:9170	Business to Business Marketing	3
MKTG:9190	International Marketing	3
MKTG:9300	Applied Marketing Research	3
MKTG:9320	Strategic Brand Positioning	3
MKTG:9330	Product and Portfolio Strategy	3
MKTG:9340	Customer Analysis	3
MKTG:9350	Marketing Communication and Promotions	3

Combined Programs

MS/MBA (Professional Program)

The combined Master of Science in business analytics (professional subprogram)/Professional Master of Business Administration Program allows students to pursue two degrees simultaneously, earning both more quickly than they would if the degrees were pursued separately. The Department of Business Analytics collaborates with the Master of Business Administration Program to offer combined MS/MBA degrees.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For information about the MBA, see the MBA Professional Program in the Master of Business Administration section of the catalog.

Admission

Applicants must meet the admission requirements of the Graduate College and the Master of Science in business analytics (professional subprogram); see the Manual of Rules and Regulations on the Graduate College website and the part-time Master of Science in business analytics (professional

subprogram) admission guidelines on the Tippie College of Business website.

Career Advancement

The Career Services team offers multiple resources to help students reach their career goals. For more information, see Graduate Career Services on the Tippie College of Business website.

Academic Plans

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Business Analytics (professional), MS

Three Year Plan

Course	Title	Hours
Academic Career		
Any Semester		
30 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. [a, b]		
	Hours	**0**
First Year		
Fall		
MBA:8150 or BAIS:9100	Data and Decisions or Data and Decisions	3
	Hours	**3**
Spring		
BAIS:6040	Data Programming in Python	3
	Hours	**3**
Summer		
BAIS:6050	Data Management and Visual Analytics	3
	Hours	**3**
Second Year		
Fall		
BAIS:9110	Advanced Analytics	3
	Hours	**3**
Spring		
Elective course [c, d]		3
	Hours	**3**
Summer		
BAIS:6070	Data Science	3
	Hours	**3**
Third Year		
Fall		
Elective course [c, d]		3
Elective course [c, d]		3
	Hours	**6**
Spring		
BAIS:6120	Analytics Experience [e]	3
	Hours	**3**
Summer		
Elective course [c, d]		3
Complete Degree Application in MyUI [f]		
	Hours	**3**
	Total Hours	**30**

a Analytics courses are offered in an 11-week format in fall, spring and summer online. MBA:8150 can be taken to fulfill the Data and Decisions requirement and is taught in an 8-week format, available in-person or online. Consult with your advisor and/or the schedule for more details.

b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

c Students may take up to 6 s.h. of business electives through the Iowa MBA Program, which are offered in an 8-week format. Business electives are offered fall, spring and summer and a select number of electives offered in winter session. Consult with your advisor and/or the schedule for more details.

d See the General Catalog for a list of approved courses.

e Consists of a group project that solves a semester-long business problem. Students should take BAIS:6120 after they have completed the core courses and at least one elective course.

f See Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor.