

Received by the Graduate Council—March 5, 2018

GRADUATE COUNCIL CURRICULUM COMMITTEE (GCCC)  
Third Meeting/2017-18 Academic Year  
February 12, 2018

SECTION B – Recorded, but further approval needed before inclusion in the Graduate Catalog p. 1 of 4

**COLLEGE OF BUSINESS**

BOT/ Other catalog change Page 57, 2017-18 Graduate Catalog  
IBHE

**Graduate Study in Business**

The College of Business offers the Master of Business Administration (M.B.A.), the Master of Accountancy (MAC), the Master of Accounting Science (M.AS.) with an area of study, the Master of Science in Taxation (M.S.T.), the Master of Science (M.S.) in financial risk management, the Master of Science (M.S.) in digital marketing, **the Master of Science (M.S.) in data analytics,** and the Master of Science (M.S.) in management information systems. These programs are accredited by AACSB International—The Association to Advance Collegiate Schools of Business.

**Department of Operations Management and Information Systems**

**All University Section**

**The Graduate School**

BOT/ Other catalog change Page 10, 2017-18 Graduate Catalog  
IBHE

**Graduate Programs**

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**Department of Operations Management and Information Systems**

Master of Science (M.S.)

**Data Analytics**

~~Master of Science (M.S.)~~

Management Information Systems

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**Department Section**

BOT/ Other catalog change Page 74, 2017-18 Graduate Catalog  
IBHE

**Master of Science in Data Analytics**

The M.S. program in data analytics provides students the advanced knowledge and skills to analyze organizational data. The use of analytics is accelerating due to technological advancements, exponential growth in data, and increasingly sophisticated application by organizations. Analytics is embedded in all industries, business functions, and employee workflows. The program prepares students for data-driven leadership and problem solving. Graduates of the M.S. in data analytics will be data-driven thinkers to approach business decision-making more rigorously and confidently, while effectively communicating data findings, interpreting complex data, and guiding their organizations in making more informed and actionable strategic decisions.

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SECTION B – Recorded, but further approval needed before inclusion in the Graduate Catalog p. 2 of 4

The program is in an online format for a large population of potential graduate students who cannot commit to either a full-time or location-based program to obtain the advanced degree. The program consists of two phases. Phase One (6 semester hours) is designed to address deficiencies in undergraduate course work considered to be prerequisite for the Phase Two (30 semester hours) graduate course work. Students with significant undergraduate course work in business may be waived from some, or all, of the Phase One requirements. Exemption exams are also available to waive Phase One requirements. There is no charge for the exam, however, a student may only attempt each exam once. Phase Two consists of 10 courses to ensure an in-depth study in data analytics.

### **Learning Outcomes**

#### **Master of Science in Data Analytics Learning Goals and Objectives**

Graduates from the NIU Department of Operations Management and Information Systems' Master of Science in data analytics program will fulfill the following learning outcomes.

#### **Learning Outcome 1: Demonstrate Data-Driven Problem Solving and Decision Making Skills**

- 1.1 Demonstrate how analyzing data can improve decisions throughout an organization's value chain.
- 1.2 Research and evaluate emerging technologies and data analytics trends in order to develop innovative data-driven organizational strategies and solutions.

#### **Learning Outcome 2: Demonstrate the Ability to Access, Collect, Integrate, and Analyze Data in Order to Solve Business Problems**

- 2.1 Differentiate different forms of analytics and the methods used in each.
- 2.2 Prepare data for statistical analysis.
- 2.3 Use analytical tools and software widely used in practice.
- 2.4 Perform basic exploratory and descriptive analysis, as well as predictive and prescriptive analyses.
- 2.5 Explain complex analytical models.

#### **Learning Outcome 3: Demonstrate Business Communication and Presentation Skills**

- 3.1 Effectively present results using data visualization tools.
- 3.2 Communicate and present complex analytics results to business clients, using practical and simple business terms that can be understood by general non-technical audiences.

#### **Learning Outcome 4: Demonstrate Project Management and Critical Thinking Skills**

- 4.1 Manage a data analytics project to interpret complex data and to guide their organizations in making more informed and actionable decisions.
- 4.2 Analyze critical factors leading to the identification of a business problem or opportunity. This may also lead to smarter business moves, more efficient operations, higher profits, and happier customers.

### **Admission**

Admission to the Master of Science in data analytics program is competitive. At minimum, applicants must meet the admission requirements of the NIU Graduate School and demonstrate that they possess the

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SECTION B – Recorded, but further approval needed before inclusion in the Graduate Catalog p. 3 of 4

following minimum qualifications:

**For applicants with a baccalaureate or higher degree from an accredited U.S. college or university:**

- Strong record of academic achievement demonstrated by cumulative GPA.
- The GMAT/GRE is not required but may be submitted to supplement the academic record if GPA does not fully demonstrate academic ability.

**For International applicants without a baccalaureate or higher degree from a U.S. college or university, GRE or GMAT is required for admission:**

- Strong record of academic potential demonstrated by GMAT or GRE score.
- Official IELTS (minimum 6.5 overall) or TOEFL (minimum 80) score received directly from the testing agency.

**Phase One (6)**

The Phase One foundations consist of three 2-semester-hour courses. Phase One foundation courses will be required in the students' program of study unless ~~he or she has~~ they have earned a C or better in corresponding undergraduate courses or a B or better in equivalent graduate courses elsewhere, or ~~has~~ have passed the first and only attempt of Phase One exemption examination. The department program ~~adviser~~ adviser will determine which Phase One courses will be included in each student's program of courses. Credits earned in Phase One will not count toward the Phase Two requirements. Phase One consists of the following courses:

- OMIS 505 - Principles of Operations Management (2)
- OMIS 507 - Business Information Systems (2)
- OMIS 524 - Business Statistics (2)

**Phase Two (30)**

**Business & Communication (9)**

- OMIS 628 - Supply Chain Business Analytics (3)
- OMIS 673 - Business Data Visualization (3)
- OMIS 690 - Information Technology Project Management (3)

**Statistics (3)**

- OMIS 645 - Applied Statistics for Business Analytics Using SAS (3)

**Programming (3)**

- OMIS 649 - Business Computing Environment (3)

**Big Data (15)**

- OMIS 652 - Business Applications of Database Management Systems (3)
- OMIS 661 - Business Intelligence Applications and Tools (3)

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**OMIS 665 - Big Data Analytics for Business (3)**

**OMIS 681 - Advanced Predictive Data Analytics for Business (3)**

**OMIS 683 - Business Applications of Text Mining (3)**

**Total hours (30-36)**