

Received by the Graduate Council—March 5, 2018

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

SECTION A – Recorded for inclusion in the 2019-20 Graduate Catalog

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COLLEGE OF BUSINESS

Department of Operations Management and Information Systems.

All University Sections

The Graduate School

Other catalog change Pages 12-13, 2017-18 Graduate Catalog

Graduate Concentrations and Certificates of Graduate Study

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~~Business Analytics~~ **Enterprise Management** Using SAP Software

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Data Analytics Using SAS Software – SAS Joint Certificate Program

Data Science for Business

Digital Image Processing

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Directory for Correspondence

Other catalog change Page 15, 2017-18 Graduate Catalog

Graduate Concentrations and Certificates of Graduate Study

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~~Business Analytics~~ **Enterprise Management** Using SAP Software: Chair, Department of Operations Management and Information Systems

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Data Analytics Using SAS Software – SAS Joint Certificate Program: Chair, Department of Operations Management and Information Systems

Data Science for Business: Chair, Department of Operations Management and Information Systems

Digital Image Processing: Chair, Department of Electrical Engineering

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Department Section

New courses Page 77, 2017-18 Graduate Catalog

CIP: 11.01

673. BUSINESS DATA VISUALIZATION (3). Visualization design and evaluation principles. Creating visualizations that effectively communicate the meaning behind data to people through visual perception.

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Comprehensive understanding of data visualization and the abilities to apply techniques for visualizing multivariate, text-based, temporal, geospatial, hierarchical, and network/graph-based data. Required use of SAS and R software. Application of related concepts and techniques in case studies to lead data-driven decisions in the real business world. PRQ: Consent of department.

681. ADVANCED PREDICTIVE DATA ANALYTICS FOR BUSINESS (3). Comprehensive study of advanced predictive modeling methods and tools used in business to predict future events or to discover meaningful patterns. Emphasis on formulating predictive analytics questions, determining the most appropriate predictive analytics methods and tools, and interpreting results and presenting data-driven solutions.

683. BUSINESS APPLICATIONS OF TEXT MINING (3). Introduction to the power of large amounts of text data and the computational methods to find patterns in such large texts using R. Focus will be geared more towards the application of various text mining techniques to business problems, rather than on the intricacies of different algorithms.

Course revisions

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628. SUPPLY CHAIN BUSINESS ANALYTICS (3). ~~Focus on developing data analysis skills necessary to make data driven supply chain decisions. Various exercises in descriptive and basic predictive data analyses using Microsoft Access, Excel and SQL Server focusing on all aspect of analysis: gathering data, cleaning data, performing appropriate data analyses using tools such as pivot tables or regression, developing dashboards to make the analysis approachable and repeatable, and visualizing results and recommendations. Application of skills by analyzing data to solve a problem for student's own organization. Fundamental understanding of SQL (e.g., OMIS 652) is strongly recommended. PRQ: A grade of C or better in OMIS 627 or consent of department.~~ Development and application of optimization methods to analyze supply chain issues. Covers linear programming, network optimization, integer programming, and nonlinear programming with an emphasis on model formulation, solution techniques, and interpretation of results.

649. BUSINESS COMPUTING ENVIRONMENTS (3). ~~Includes client/server, peer-peer, and internet-based. Review of key literature in the area and analysis of current problems and trends. Laboratory experience with a variety of business computing environments. Emphasis on collaborative work. A student must earn a grade of C or better in an information systems concepts course prior to enrollment.~~ Introduces students to the fundamentals of data management and analysis using SAS and R. Emphasis will be placed on the management of large distributed data sets and data manipulation, including reading, processing, recoding, and reformatting of data. Topics include: advanced programming, using SQL with SAS and R, and optimizing SAS and R programs.

Other catalog change

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Certificates of Graduate Study

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Data Analytics Using SAS Software – SAS Joint Certificate Program (12)

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Data Science for Business (12)

Coordinator: Academic ~~Advisor~~ Adviser, Department of Operations Management and Information Systems

This certificate is offered in online format and is designed for all majors who would like to become data science professionals looking to harness data in new and innovated ways. 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. Data science professionals are the most advanced analytics professionals. They have advanced capabilities in programming, modeling, and machine learning.

The certificate brings together technology, data, and strategic decision making and prepares students to work in a data-rich environment in making more informed and actionable strategic decisions.

Students must maintain good academic standing within the university, achieve a minimum grade of a C in each course applied toward the certificate, and complete all certificate course work within a period of four calendar years. Only courses taken at NIU may be applied toward the certificate. Some courses may have prerequisites that are not part of the certificate curriculum.

Students interested in the certificate should apply no later than the beginning of their final semester prior to graduation. Applications are available in the Department of Operations Management and Information Systems.

Required Courses:

OMIS 645 - Applied Business Analytics Using SAS (3)

OMIS 649 - Business Computing Environments (3)

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

OMIS 683 - Business Applications of Text Mining (3)

COLLEGE OF VISUAL AND PERFORMING ARTS

School of Music

New Courses

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CIP CODE: 10.0203

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MUTC 503. APPLIED RECORDING TECHNIQUES (2). In-depth exploration of digital audio workstations (DAW) and studio techniques for the purposes of recording, editing, mixing and mastering audio. PRQ: MUTC 500 and MUTC 501.

MUTC 520. FUNDAMENTALS OF STUDIO DESIGN (2). Fundamental concepts including studio construction, room acoustics and best practices for construction and calibration.