MASTER OF SCIENCE IN ANALYTICS

THE MASTER OF SCIENCE IN ANALYTICS (MSiA) program combines mathematical and statistical study with instruction in advanced computational and data analysis. Students learn to identify patterns and trends, interpret and gain insight from vast quantities of structured and unstructured data, and communicate their findings in practical, useful terms. Students study three areas of data analysis: predictive (forecasting), descriptive (business intelligence and data mining), and prescriptive (optimization and simulation).

MASTER OF SCIENCE PROGRAM

DEGREE REQUIREMENTS

Study commences in September, and degrees are conferred in December of the following year. Students are required to complete:

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15 units of coursework

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An eight-month industry practicum

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A summer internship

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A 10-week industry-supplied capstone project

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COURSEWORK

Students engage with a comprehensive curriculum of data analytics, including courses such as predictive analytics, deep learning, data visualization, analytics for big data, data warehousing and workflow management, and leadership for analytical organizations and functions. Case studies of real-world analytics problems are used to foster discussion and refine mathematical, computing, operations research, and statistics skills.

Throughout the program, students learn to identify patterns and trends; derive optimized recommendations evaluated through simulations; interpret and gain insight from vast quantities of structured and unstructured data; and communicate their findings in practical, useful terms that help drive business success. In addition, students receive training and practice in the tools most frequently used in the professional setting: R, SQL, Tableau, D3, Hadoop, Spark, among others.

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INTERNSHIP

Each student spends three months at a summer internship where he or she contributes to a project team. Our faculty works closely with corporations from across the country and a range of industries to fit the educational needs and interests of each student.

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INDUSTRY-BASED PROJECTS

Students have two opportunities, in the practicum and in the capstone project, to work in teams for extended periods on industry-supplied problems. Teams work with technical and business advisers and sponsor companies to scope a project, cleanse and process data, and perform analytics before delivering final recommendations to the client. Teams are evaluated on how well they integrate the breadth and depth of the course material. The projects provide practical experience in using data to create algorithms and business models that are used in working environments.

The summer internship, the practicum, and the capstone project allow students to gain work experience and explore career opportunities with three different companies while earning their degree. Program participants also have full access to Northwestern University's extensive career resources.

DISTINGUISHED SPEAKERS SERIES

To complement academic instruction, the program also includes a Distinguished Speakers Series. Each quarter, leading scholars and well-known executives and managers from top companies are brought in to present guest lectures and seminars.

ADMISSION REQUIREMENTS

Incoming students typically have bachelor's degrees in engineering, business, computer science, mathematics, statistics, and information technology, among other quantitatively heavy disciplines. No specific undergraduate degree is required, but coursework in statistics and probability, along with experience in computer programming, is strongly encouraged.

Work experience is considered, but applicants without it should not feel that this constitutes a significant barrier to their application.

The admissions committee reviews each application holistically. A complete list of application requirements can be found on the MSiA website.

FELLOWSHIPS

The MSiA program offers a limited number of fellowships that cover 50 percent of tuition. They are merit-based and awarded during the application process to selected students.

CONTACT

Learn more about the MSiA program at www.analytics. northwestern.edu or contact analytics@northwestern.edu with specific questions.

Northwestern University's School of Professional Studies also offers a part-time, online Master of Science in Predictive Analytics program.

www.predictive-analytics.northwestern.edu/request-info/