ONLINE MASTER'S DEGREE PROGRAM

Predictive Analytics

Build the analytic and leadership expertise necessary to implement high-level, data-driven decisions.

Northwestern | SCHOOL OF PROFESSIONAL STUDIES

Go beyond analytics.

MASTER OF SCIENCE IN PREDICTIVE ANALYTICS

Organizations of nearly every type, including marketing, health care, finance and resource management are recognizing the critical role of data in high-level decision making.

Northwestern University's Master of Science in Predictive Analytics program prepares graduates for these challenges and for the new opportunities that are emerging in the data science field. Northwestern's MS in Predictive Analytics is a convenient online program that brings together data management, statistical analysis and leadership to help students become effective data scientists and educated consumers of analytics.

Students learn how to utilize database systems (SQL and NoSQL) and analytics software built upon R, Python, and SAS. Graduates can leverage this multilingual training when seeking careers and consulting engagements across a wide range of industries.

The rigorous curriculum ensures that students receive a thorough grounding in predictive analytics and graduate as skilled data scientists. Instruction focuses on conceptual understanding and practical application, with concrete problem solving in specific industries. Additional instruction in communication and leadership provides the skills students need to articulate the value of data-driven decisions and communicate across disciplines as they lead new strategic initiatives.

The Predictive Analytics program enables students of diverse backgrounds to master the mathematical content. This thorough grounding in analytics separates the Predictive Analytics program from a traditional MBA program that may stress management theory over quantitative skill.

Curriculum

Students are required to complete 12 courses to earn the degree. The curriculum covers eight core courses, two elective courses, a leadership or project management course, and a capstone (498) or thesis (590) project.

CORE COURSES (8)

- PREDICT 400 Math for Modelers
- PREDICT 401 Statistical Analysis
- PREDICT 402 Analytics and Data Collection
- PREDICT 410 Regression and Multi Analysis
- PREDICT 411 Generalized Linear Models
- PREDICT 413 Time Series and Forecasting
- PREDICT 420 Database Systems
- PREDICT 422 Practical Machine Learning

ELECTIVE COURSES (SELECT 2)

Subject to change — see the website for the most up-to-date information

- PREDICT 450 Marketing Analytics
- PREDICT 451 Risk Analytics
- PREDICT 452 Web and Network Data Science
- PREDICT 453 Text Analytics
- PREDICT 454 Advanced Modeling Techniques
- PREDICT 455 Data Visualization
- PREDICT 456 Sports Performance Analytics
- PREDICT 457 Sports Management Analytics
- PREDICT 470 Analytics Entrepreneurship
- PREDICT 472 Analytics Consulting
- PREDICT 490 Special Topics in Analytics

OTHER REQUIRED COURSES (2)

- PREDICT 475 Project Management
  or PREDICT 480 Business Leadership
- PREDICT 498 Capstone Project
  or PREDICT 590 Thesis Research

PROJECT MANAGEMENT COURSE

Using methods and models from this course, graduates will manage projects with greater definition and structure and be able to execute projects more effectively. This course introduces best practices in project management, covering the full project life cycle with a focus on globally accepted standards.

LEADERSHIP COURSE

To gain exposure to theories and best practices in leadership, communication, innovation and change management, MSPA students join other SPS graduate students in a 10-week leadership class. With these skills complementing the core curriculum, graduates are better prepared to face the challenges of the modern workplace.

CAPSTONE PROJECT

MSPA students may pursue their capstone experience independently or as part of a team. As their final course, students take either the individual research project in an independent study format (PREDICT 590) or the classroom capstone class in which students integrate the knowledge they have gained in the core curriculum in a project presented by the instructor (PREDICT 498). In both cases students are guided by MSPA faculty in exploring the body of knowledge on predictive analytics while contributing research of practical value to the field. The capstone independent project and capstone class project count as one unit of credit.

THESIS RESEARCH

This final project is meant to represent the culmination of students' experience in the program and must demonstrate mastery of the curriculum and ability to conduct sustained independent research and analysis.

Admission

Applicants must hold a bachelor's degree or higher from a regionally accredited institution or its foreign equivalent. A competitive undergraduate record that indicates strong academic ability is required, though applicants need not have extensive academic experience in predictive analytics or related fields. Work or research experience in the field of study is desirable but not necessarily a requirement. For more information, visit sps.northwestern.edu/mspa.

APPLICATION CHECKLIST

- Online application-sps.northwestern.edu/apply.
- $75 nonrefundable application fee
- One sealed copy of official transcripts from ALL attended colleges and universities. Official transcripts must arrive in our office in the original sealed envelope issued by the institution. Northwestern University School of Professional Studies accepts electronic transcripts from U.S. institutions via secure electronic transcript providers. Consult with your institution to see if they are part of a secure e-delivery network. All electronic transcripts should be sent to spsadmissions@northwestern.edu. Please note transcripts are not accepted by fax or personal email. Applicants with international transcripts must request an official course-by-course evaluation of transcripts from a NACES member such as WES or ECE. A course-by-course evaluation will translate courses, degrees and grades to U.S. equivalency.
- Two letters of recommendation focusing on academic and professional achievement and ability
- Statement of purpose (see following)
- Current resume or curriculum vita

STATEMENT OF PURPOSE

Applicants must submit a 300-word statement of purpose explaining how the degree program will help them meet their academic and professional goals. Applicants who do not have a demonstrated quantitative methods background should explain how other academic and nonacademic experiences have equipped them to undertake graduate study in this program.

For detailed admission information visit
sps.northwestern.edu/mspa
For application assistance call 312-503-2579 or email mspa@northwestern.edu.

APPLICATION EVALUATION

Your application will be evaluated by the MSPA Admissions Committee. The following considerations will guide the Admissions Committee in reviewing your application:

- The Statement of purpose demonstrates if a student's academic and professional goals are appropriate for this degree. This statement will also aid the committee in determining if the prospective student possesses the necessary writing skills and intellectual maturity for succeeding in this program.
- The letters of recommendation serve to underscore the applicant's commitment to graduate education and ability to succeed in graduate level work.
- The resume is used to provide evidence of a student's continuing commitment to and/or understanding of the predictive analytics field. While we prefer candidates to possess three to five years of work and/or research experience in a related area, recent university graduates and career changers are also encouraged to apply. These applicants must demonstrate to the committee their commitment to the MSPA program by detailing previous internship experience or academic work.

Application Deadlines

Applications are accepted every quarter.

FALL: July 15
WINTER: October 15
SPRING: January 15
SUMMER: April 15

TUITION

- 2016-17 tuition per course: $4,142
- Estimated cost for entire program (total with technology fee): $51,144

“(The MSPA program) pushed me to think differently when it came to understanding data and finding insights to take action on. I came from a technology background on the business intelligence side, so this made me sit in the shoes of my direct customer. It truly made me appreciate how an information worker thinks and what their challenges are.”

Jason Berkowitz (MSPA ’13)
Senior Big Data Solution Architect at Amazon Web Services

“I found that the MSPA degree was a great way for me to transition to sports marketing analytics and complement the business skills I already had.”

Leslie Cervantes (MSPA ’14), Analytics and Sales Consultant at Block Six Analytics

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