Online Master of Science Program in Applied Data Science

The Master of Science in Applied Data Science gives students a thorough knowledge of techniques in the field of analytics and data science, and the ability to apply them to real-world business scenarios. Building from a core in applied statistics, math and programming, students are provided with advanced analytical training to develop their ability to draw insights from big data. This includes: machine learning and predictive analytics, deep learning, reinforcement learning, data engineering platforms, time series analysis, linear and non-linear models, statistical methods, and other sophisticated techniques for analyzing complex data.

The program is highly applied in nature, integrating business strategy, project-based learning, simulations, case studies, and specific electives addressing the analytical needs of various industry sectors. Through partnerships with key employers, the program also provides students with a client based, 2 term Capstone experience as well as access to career networks and employment pathways upon graduation.

- Program type: masters degree program
- Program structure, courses, requirements, and application ([https://grahamschool.uchicago.edu/credit/master-science-analytics/index/](https://grahamschool.uchicago.edu/credit/master-science-analytics/index/))
- Location: online (synchronous and asynchronous)
- Full-time: weekday, weekday evening, and Saturday classes (as available)
- Part-time: weekday evenings and Saturday classes (as available)
- Time to completion: 1-4 years
- Only courses with a grade of B- or better will count toward degree requirements

Minimum G.P.A. for satisfactory academic progress: 3.0

Admission criteria:

- Online application
- One transcript from each prior academic institution
- Candidate statement
- Resume or CV

Applicants who attended an international university must also:

- Satisfy English language proficiency requirement
- Provide course by course evaluation

Program requirements:

12 courses curriculum

- Foundational Skills courses [non-credit courses, 4 depending on assessment results of 80% or higher to waive the course(s)]
- Core courses (7)
- Electives (3)
- Capstone project (2)

Foundational Courses:

Foundation courses provide the basis for our rigorous applied data science degree that support the theoretical, strategic, and practical analytics studies in more advanced courses. Students with sufficient preparation may be eligible to bypass the programming course.

Pre-quarter foundational courses (non-credit):

Students are required to take the following pre-quarter courses, unless they receive an 80% or higher on the course assessments.

- MSCA 31000 (Course offered during pre-quarter; waived with 80% or higher on the Statistics assessment)
- MSCA 37020 (Course offered during pre-quarter; waived with 80% or higher on the R assessment)
- MSCA 37021 (Course offered during first 5-weeks of the first admitted quarter; waived with 80% or higher on the Python assessment)
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MSCA 37016 (Course offered during second 5-weeks of the first admitted quarter; waived with 80% or higher on the Linear Algebra assessment)

MSCA Core requirements:

- MSCA 31006
- MSCA 31007
- MSCA 31008
- MSCA 31009
- MSCA 31010

One of the following Data Engineering courses*

- MSCA 31012
- MSCA 31013

One of the following Leadership courses*

- MSCA 31003 Leadership Skills
- MSCA 31015 Data Science for Consulting

MSCA Electives (subject to instructor availability):

- MSCA 32001
- MSCA 32003
- MSCA 32007
- MSCA 32009
- MSCA 32013
- MSCA 32014
- MSCA 32015
- MSCA 32017
- MSCA 32018
- MSCA 32019
- MSCA 32020
- MSCA 32021
- MSCA 32023

Capstone project:

- MSCA 34002
- MSCA 34003

Non-credit workshops & short courses:

- MSCA 37001 (Workshop content is taken apart of the MSCA 31012 or MSCA 31013 course curriculum)
- MSCA 37002 (Workshop content is taken apart of the MSCA 31012 or MSCA 31013 course curriculum)
- MSCA 37019

*Optional core courses may be taken as electives.

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M.S. IN ANALYTICS COURSES