

Accelerated Masters in Data Science

The accelerated Masters in Data Science program is open to all high achieving undergraduate students at Michigan Tech. It allows students to double count up to six courses toward both the Bachelor's and MS degree. The Appendix provides a list of courses that can be double counted. Students who are accepted to the accelerated MS in Data Science program are considered to be graduate students upon completion of their bachelor's degree. All graduate students must adhere to the continuous enrollment policy, along with all other Graduate School and University policies.

Admission Requirements

1. All bachelor's degree seeking students from Michigan Tech with a cumulative graduating GPA of 3.0 or higher are eligible to enter the accelerated MS in Data Science program.
2. Students with an overall GPA of 3.0 or higher can apply for admission to the accelerated MS in Data Science program any time upon attaining junior class standing, but must apply prior to being awarded their bachelor's degree.
3. Students already enrolled in a graduate program may not retroactively enroll in the accelerated MS in Data Science program.
4. The standard Graduate School and MS in Data Science program admissions process applies: Two letters of reference, resume, non-Michigan Transcripts (if applicable) and student statements.
5. Upon acceptance, each student must meet with the Data Science graduate program director to document the specific double-counted courses and allowed senior rule courses.

Program Requirements

1. The accelerated MS in Data Science requires 30 credits of approved coursework.
2. A cumulative GPA of 3.0 or higher is required for graduation.
3. All coursework must be completed within 5 years from admission to the Michigan Tech Graduate School and the accelerated MS in Data Science program.
4. Under Senior Rule, a student may take up to 10 credit hours of the credits toward the accelerated MS in Data Science degree while an undergraduate. Senior rule credits are independent of double-counted credits.
5. All courses counted under the senior rule and all double-counted courses applied to the accelerated MS in Data Science degree must have a grade of B or higher. See the Appendix for a list of courses that can be double counted or used under the Senior rule.



Appendix

Up to six credits (typically two of the following courses) may double count towards a bachelor's degree and an accelerated MS in Data Science degree. Additionally, under Senior Rule, students may take up to 10 credits (typically three of the following courses) towards the MS in Data Science while an undergraduate.

Note, the courses listed here are updated yearly by the program. Consult with the Data Science graduate director for any courses not seen here.

BA 5200—Information Systems Management and Data Analytics

BA 5300-Financial Reporting and Control

BA 5610—Operations Management

BA 5600-Project Management

BA 5800—Marketing, Technology, and Globalization

BE 5550—Biostatistics for Health Science Research

CH 4610—Introduction to Polymer Science

CH 5410—Advanced Organic Chemistry: Reaction Mechanisms

CH 5420—Advanced Organic Chemistry: Synthesis

CH 5509—Transport and Transformation of Organic Pollutants

CH 5515—Atmospheric Chemistry

CH 5516—Aerosol and Cloud Chemistry

CH 5560—Computational Chemistry

CS 3425—Database

CS 4425—Data Management System Design

CS 4471—Computer Security

CS 4811—Artificial Intelligence

CS 5321—Advanced Algorithms

CS 5331—Parallel Algorithm

CS 5441—Distributed System

CS 5471—Advanced Topics in Computer Security

CS 5496/EE 5496—GPU and Multi-core Programming

CS 5631—Data Visualizations

CS 5760—HCI Usability Testing

CS 5811—Advanced Artificial Intelligence

CS 5821/EE 5821—Computational Intelligence

CS 5831—Advanced Data Mining

CS 5841/EE 5841—Machine Learning

EC 4200—Econometrics

EC 4400-Banking and Financial Institutions

EE 5496/CS 5496—GPU and Multi-core Programming



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EE 5500—Probability and Stochastic Processes
EE 5521—Detection & Estimation Theory
EE 5726—Wireless Sensor Networks
EE 5821/CS 5821—Computational Intelligence
EE 5841/CS 5841—Machine Learning
FIN 3000-Principles of Finance
FIN 4200-Derivatives and Financial Engineering
FW 3540-Introduction to Geographic Information Systems for Natural Resource Management
FW 5083—Programming Skills for Bioinformatics
FW 5084—Data Presentation and Visualization with R
FW 5411—Applied Regression Analysis
FW 5412—Regression with the R
FW 5540—Remote Sensing of the Environment
FW 5550—Geographic Information Systems and Spatial Analysis
FW 5555—Advanced GIS Concepts and Analysis
FW 5556—GIS Project Management
FW 5560—Digital Image Processing: A Remote Sensing Perspective
GE 5150—Advanced Natural Hazards
GE 5195—Volcano Seismology
GE 5250—Advanced Computational Geosciences
GE 5600—Advanced Reflection Seismology
GE 5870—Geostatistics & Data Analysis
MA 3710—Engineering Statistics
MA 3715—Biostatistics
MA 3740—Statistical Programming and Analysis
MA 4330—Linear Algebra
MA 4710—Regression Analysis
MA 4720—Design and Analysis of Experiments
MA 5201—Combinatorial Algorithms
MA 5221—Graph Theory
MA 5627-Numerical Linear Algebra
MA 5630—Numerical Optimization
MA 5701—Statistical Methods
MA 5741—Multivariate Statistical Methods
MA 5750—Statistical Genetics
MA 5761—Computational Statistics
MA 5770-Bayesian Statistics
MA 5781—Time Series Analysis and Forecasting
MA 5790—Predictive Modeling
MA 5791—Categorical Data Analysis
MIS 3100—Business Database Management
MIS 3200-Systems Analysis and Design



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MIS 3400—Business Intelligence
MIS 4990—Special Topics in Management Information Systems
MGT 4600—Management of Technology and Innovation
MKT 3200—Consumer Behavior
MKT 3600—Marketing Data Analytics
PH 4390—Computational Methods in Physics
PSY 5210—Advanced Statistical Analysis and Design I
PSY 5220—Advanced Statistical Analysis and Design II
SAT 3002—Application Programming Introduction
SAT 3210—Database Management
SAT 3611—Infrastructure Service Administration and Security
SAT 5001—Introduction to Medical Informatics
SAT 5114—Introduction to Artificial Intelligence in Health
SAT 5141—Clinical Support Modeling
SAT 5151—Application Integration and Interoperability
SAT 5241—Designing Security Systems
SAT 5283—Information Governance and Risk Management
SAT 5424—Population Health Management and Monitoring
SAT 5761—Introduction to Hadoop and Applications
SS 5005—Introduction to Computational Social Science
SS 5315—Population and Environment
SU 5010—Geospatial Concepts, Technologies, and Data
UN 5000—Graduate Cooperative Education I
UN 5390—Scientific Computing
UN 5550—Introduction to Data Science