Northwestern
McCORMICK SCHOOL
OF ENGINEERING

MLDS Minor Advising for Industrial Engineering Majors

Note: *The guidance here is based on the 2023-2024 Industrial Engineering degree requirements. You can find Machine Learning and Data Science (MLDS) Minor curriculum details on the MLDS website.*

Overview

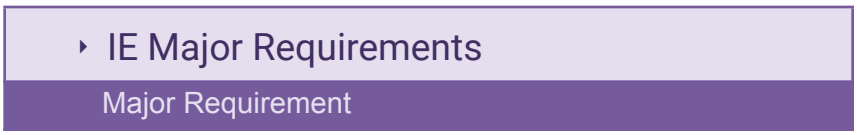
The MLDS minor consists of **8 courses**:

- ➔ 1 course in Programming Foundations
- ➔ 1 course in Statistics Foundations
- ➔ 4 specialization courses (Machine Learning, Data Science, or Hybrid)
- ➔ 2 electives in machine learning and data science.

The specific courses that satisfy these requirements can be found here.

Double Counting Rules

The McCormick School of Engineering requires that each minor consists of **4 unique courses** that are **not** used towards any other major or minor requirements. "Major requirements" are those designated as "Major Program (21 units)," which can be found on either MAS or the Industrial Engineering website.



MAS dropdown for specific major requirements

Tips

- ➔ Be mindful of prerequisites for both the MLDS Specialization and Elective courses. Declaration of the minor does not imply that any prerequisites will be waived for you.

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The guides below represent some of the possible paths for Industrial Engineering majors who are pursuing the MLDS minor. Other paths are possible – talk to your advisor or email dse@northwestern.edu.

Potential Machine Learning Specialization Tracks

Course Selection	How this counts towards your IE degree	Notes
Programming Foundations		
COMP_SCI 150	Major Requirement (Computer Programming)	
Statistics Foundation		
IEMS 303	Major Requirement (Industrial Engineering Methods Core)	
Machine Learning Specialization		
COMP_SCI 111	Major Requirement (Computer Programming)	
COMP_SCI 214	Unrestricted Elective	Unique Course
COMP_SCI 348	Unrestricted Elective	Unique Course
COMP_SCI 349	Unrestricted Elective	Unique Course
MLDS Electives		
IEMS 313**	Major Requirement (Industrial Engineering Methods Core)	
MLDS Approved Elective	Unrestricted Elective	Unique Course

Potential option: Machine Learning specialization using IEMS 313 as an MLDS Elective

*** This is an example course that could double count– many others also could. See approved MLDS electives for more options.*

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Potential Data Science Specialization Tracks

Course Selection	How this counts towards your IE degree	Notes
Programming Foundations		
COMP_SCI 150	Major Requirement (Computer Programming)	
Statistics Foundation		
IEMS 303	Major Requirement (Industrial Engineering Methods Core)	
Data Science Specialization		
COMP_SCI 217	Major Requirement (Computer Programming)	
IEMS 304	Major Requirement (Industrial Engineering Methods Core)	
DATA_ENG 200	Unrestricted Elective	Unique Course
DATA_ENG 300	Unrestricted Elective	Unique Course
MLDS Electives		
MLDS Approved Elective	Unrestricted Elective	Unique Course
MLDS Approved Elective	Unrestricted Elective	Unique Course

Potential option: Data Science specialization with MLDS Electives as unique courses

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Potential Hybrid Specialization Tracks

Course Selection	How this counts towards your IE degree	Notes
Programming Foundations		
COMP_SCI 150	Major Requirement (Computer Programming)	
Statistics Foundation		
IEMS 303	Major Requirement (Industrial Engineering Methods Core)	
Hybrid Specialization		
COMP_SCI 214	Unrestricted Elective	Unique Course
COMP_SCI 349	Unrestricted Elective	Unique Course
DATA_ENG 200	Unrestricted Elective	Unique Course
DATA_ENG 300	Unrestricted Elective	Unique Course
MLDS Electives		
IEMS 313**	Major Requirement (Industrial Engineering Methods Core)	
IEMS 341**	Major Requirement (Management Science Elective)	

Potential option: Hybrid specialization using IEMS 313 and IEMS 341 as double counts

*** This is an example course that could double count– many others also could. See approved MLDS electives for more options.*