Northwestern
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OF ENGINEERING

MLDS Minor Advising for Electrical Engineering Majors

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

Overview

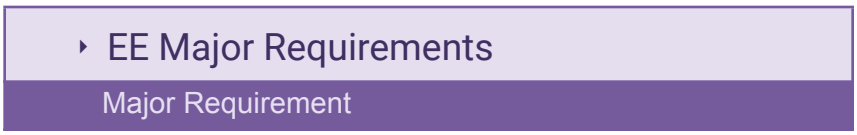
The MLDS minor consists of **8 courses**:

- ➔ 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 Electrical 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 Electrical 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 EE degree	Notes
Programming Foundations		
COMP_SCI 150	Major Requirement (Core)	
Statistics Foundation		
CHEM_ENG 312/ CIV_ENV 306/ IEMS 303	Major Requirement (300-level Technical Elective)	
Machine Learning Specialization		
COMP_SCI 111	Unrestricted Elective	Unique Course
COMP_SCI 214	Unrestricted Elective	Unique Course
COMP_SCI 348	Major Requirement (300-level Technical Elective)	
COMP_SCI 349	Major Requirement (300-level COMP_SCI Course)	
MLDS Electives		
MLDS Approved Elective	Unrestricted Elective	Unique Course
MLDS Approved Elective	Unrestricted Elective	Unique Course

Potential option: Machine Learning specialization using Technical Elective courses

** Note: Either COMP_SCI 348 or COMP_SCI 349 could fulfill the 300-level Technical Course requirement.*

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Potential Data Science Specialization Tracks

Course Selection	How this counts towards your EE degree	Notes
Programming Foundations		
COMP_SCI 150	Major Requirement (Core)	
Statistics Foundation		
CHEM_ENG 312/ CIV_ENV 306/ IEMS 303	Major Requirement (300-level Technical Elective)	
Data Science Specialization		
COMP_SCI 217	Unrestricted Elective	Unique Course
IEMS 304	Unrestricted Elective	Unique Course
DATA_ENG 200	Unrestricted Elective	Unique Course
DATA_ENG 300	Major Requirement (300-level Technical Elective)	
MLDS Electives		
ELEC_ENG 335**	Major Requirement (Technical Elective: Signal Processing and Machine Learning)	
MLDS Approved Elective	Unrestricted Elective	Unique Course

Potential option: Data Science specialization using Technical Electives

*** 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 Hybrid Specialization Tracks

Course Selection	How this counts towards your EE degree	Notes
Programming Foundations		
COMP_SCI 150	Major Requirement (Core)	
Statistics Foundation		
CHEM_ENG 312/ CIV_ENV 306/ IEMS 303	Major Requirement (300-level Technical Elective)	
Hybrid Specialization		
COMP_SCI 348	Major Requirement (300-level Technical Elective)	
COMP_SCI 349	Unrestricted Elective	Unique Course
DATA_ENG 200	Unrestricted Elective	Unique Course
DATA_ENG 300	Major Requirement (300-level Technical Elective)	
MLDS Electives		
MLDS Approved Elective	Unrestricted Elective	Unique Course
MLDS Approved Elective	Unrestricted Elective	Unique Course

Potential option: Hybrid specialization using COMP_SCI 348 and DATA_ENG 300 as Technical Electives