Mechanical Engineering DSE Minor Guidance 2022-2023

Note: The guidance here is based on the 2022 MechE degree requirements. Those who are following previous years' catalogs should use the 2021 and prior sheet for guidance. You can find Data Science and Engineering (DSE) Minor curriculum details on the DSE website.

Overview

The DSE Minor consists of **8 courses**. This includes the 4 core courses for Data Science and Engineering that requires 1 course taken in each area of:
- Programming Foundations
- Statistics Foundations
- Intermediate Programming and Algorithmic Thinking
- Applied Machine Learning

The minor also requires 2 studio courses and 2 DSE approved electives. All courses that count toward each requirement can be found here.

Double Counting Rules

McCormick 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)" in the catalog and designated with purple banners in your MAS degree audit. **Unrestricted electives do not count towards major requirements**. This means you can **count up to 4 courses towards both the DSE minor and your major requirements.**

Tips

- Take advantage of the flexibility in some of the minor requirements, *e.g, if you are pursuing a ME breadth or Design Concentration, you are able to double count courses for both your concentration and the DSE minor*
- Be mindful of prerequisites, both for the DSE Core Courses and DSE Electives. Declaration of the minor does not imply that any prerequisites will be waived for you.

The guides below represent some possible paths for MechE majors who are pursuing the DSE minor. Other paths are possible—talk to your advisor or email us at dse@northwestern.edu.

If pursuing a ME Breadth Concentration

DSE Minor Requirements	Course Selection	How does this count for my degree?	Notes
Data Science Core: 4 Courses			
Programming Foundations	COMP_SCI 150	Unrestricted Elective	Unique Course
Statistics Foundation	IEMS 303/ CIV_ENV 306	Major Requirement (ME Breadth Concentration)	Must take CIV_ENV 304 if taking CIV_ENV 306
Intermediate Programming	Any DSE Option	Unrestricted Elective	Unique Course
Applied Machine Learning	Any DSE Option	Unrestricted Elective	Unique Course
Data Science Studio Courses: 2 Courses			
	DATA_ENG 200	Unrestricted Elective	Unique Course
	DATA_ENG 300	Major Requirement (ME Breadth Concentration)	
Elective: 2 Courses			
	DSE Approved Elective	Major Requirement (ME Breadth Concentration)	Can be MECH_ENG 301/329/341/441
	DSE Approved Elective	Major Requirement (ME Breadth Concentration)	Must be CIV_ENV 304 if taking CIV_ENV 306, Otherwise DSE option from above

If pursuing a Design Concentration

DSE Minor Requirements	Course Selection	How does this count for my degree?	Notes
Data Science Core: 4 Courses			
Programming Foundations	COMP_SCI 150	Unrestricted Elective	Unique Course
Statistics Foundation	IEMS 303	Major Requirement (Design Concentration)	
Intermediate Programming	Any DSE Option	Unrestricted Elective	Unique Course
Applied Machine Learning	IEMS 304	Major Requirement (Design Concentration)	
Data Science Studio Courses: 2 Courses			
	DATA_ENG 200	Unrestricted Elective	Unique Course
	DATA_ENG 300	Unrestricted Elective	Unique Course
Elective: 2 Courses			
	DSE Approved Elective	Major Requirement (Design Concentration)	Options are: MECH_ENG 329/341/441 IEMS 307/308/351
	DSE Approved Elective	Major Requirement (Design Concentration)	