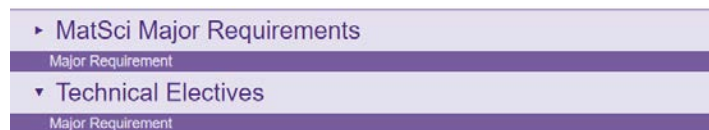


## Guidance for Materials Science & Engineering Majors

- ❖ The guidance here is based on the [2020 MSE degree requirements](#). You can find Data Science & Engineering (DSE) Minor curriculum details on the [DSE website](#).
- ❖ The DSE Minor requires 8 courses. McCormick requires that each minor consist of 5 courses that are **not** used towards any of your major requirements.
  - “Major Requirements” are those designated as “Major Program (16 units)” in the catalog. They are also designated with purple banners in your MAS degree audit:



- You can count up to 3 courses towards both DSE minor and your major requirements.
  - Talk to your advisor, or to Prof. Stair, about how to choose DSE core and elective courses that can be used towards your MSE concentration/technical electives.
  - Basic Engineering and Unrestricted Electives are not considered major requirements.
- ❖ Double counting rules also apply to minors and certificates.
  - This means your DSE minor must use 5 courses that do not apply to your major program, or to any other minors and certificates.
  - Take advantage of flexibility in some of the minor requirements.
- ❖ Be mindful of prerequisites, both for DSE Core Courses and for 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 MSE majors who are pursuing the DSE minor. Other paths are possible—talk to your advisor or email us at [dse@northwestern.edu](mailto:dse@northwestern.edu).

### Using a Non-MatSci course as DSE Elective

DSE Minor Requirements	Course Selection	How does this count for my major?		Notes
		Not Major Requirement	Major Requirement	
<b>Data Science Core: 4 courses</b>				
Statistics Foundations	Any DSE Option	Basic engineering <i>Prob, Stat, Quality Control</i>		
Programming Foundations		Unrestricted Electives		
Intermediate Programming				
Applied Machine Learning				
<b>Data Science Studio Courses: 2 courses</b>				
	DATA_ENG 200		Tech Elective	Double Count
	DATA_ENG 300		Tech Elective	Double Count
<b>Electives: 2 courses</b>				
	MAT_SCI 391		Yes	Double Count
	DSE Approved Elective	Unrestricted Elective		

### Using MAT\_SCI 358 as DSE Elective\*

DSE Minor Requirements	Course Selection	How does this count for my major?		Notes
		Not Major Requirement	Major Requirement	
<b>Data Science Core: 4 courses</b>				
Statistics Foundations	Any DSE Option	Basic engineering <i>Prob, Stat, Quality Control</i>		
Programming Foundations		Unrestricted Electives		
Intermediate Programming				
Applied Machine Learning				
<b>Data Science Studio Courses: 2 courses</b>				
	DATA_ENG 200	Unrestricted Elective		
	DATA_ENG 300		Yes	Double Count
<b>Electives: 2 courses</b>				
	MAT_SCI 391		Tech Elective	Double Count
	MAT_SCI 358		Tech Elective	Double Count

\*MAT\_SCI 358 will be approved for DSE by petition