



**2023 -2024 Flowchart Key, Graduation Requirements, and Department of Mechanical Engineering Policies**

Co-requisite, Prerequisite

CATALOG #####  
Course Title

Concurrent, Subsequent

2.7 or higher cum. GPA required for Full Major Status

Gen. Ed. Course

Requires Full Major Status

L = Lab Included  
F = Fall  
S = Spring  
Su\* = Summer (tentative)

^ CS 2420 can be counted as a Mechanical Engineering Technical Elective if completing the DS emphasis

\*\*\*This flowchart uses GenEd requirements for catalog years through 2023.

+ Refer to the second page on technical electives to see the overlap of the DS emphasis, the DS certificate, and the Computer Science minor.



**How to structure your Mechanical Engineering Technical Electives\* to receive a Data Science Emphasis with or without a Computer Science Minor, Data Science Certificate or both with the least amount of classes possible**

If you just want to complete the Data Science Emphasis**	If you want to complete the Data Science Emphasis AND a Computer Science Minor	If you want to complete the Data Science Emphasis and a Data Science Certificate	If you want to complete the Data Science Emphasis, and Computer Science Minor AND Data Science Certificate
<b>Required: CS 2420</b> (prerequisite CS 1420)	<b>Required: CS 2420</b> (prerequisite CS 1420)	<b>Required: CS 2420</b> (prerequisite CS 1420)	<b>Required: CS 2420</b> (prerequisite CS 1420)
<b>Choose one from:</b> DS 2500 CS 3500 CS 5140 CS 5350 MATH 5010 ME EN 5035	<b>Choose one of these emphasis requirements that can also count as a CS minor elective:</b> CS 3500 CS 5140 CS 5350	<b>Take any of the emphasis electives:</b> DS 2500 (required for certificate) (DS certificate electives): CS 3500 CS 5140 CS 5350 MATH 5010 ME EN 5035 (you will still need to complete one of these electives for the certificate if you choose DS 2500 and you will still need DS 2500 if you choose one of these electives; see below).	<b>Take any of these emphasis electives:</b> DS 2500 (required for certificate) (DS certificate and CS minor electives): CS 3500 CS 5140 CS 5350 (you will still need to complete one of these electives for the certificate if you choose DS 2500 and you will still need DS 2500 if you choose one of these electives; see below).
<b>Choose one from:</b> CS 3190 MATH 4100 COMP 5360	<b>Choose this course that can also count as a CS minor elective:</b> CS 3190	<b>Choose any of these that count for the DS certificate:</b> CS 3190 MATH 4100 COMP 5360	<b>Choose this course that can also count as a DS certificate and CS minor elective:</b> CS 3190
	<b>Still needed for CS minor***:</b> One more CS 3000-5999 elective or CS 2100  (also requires Math 1210 which is covered by the major)	<b>Still needed for Data Science Certificate***:</b> <ul style="list-style-type: none"> <li>• Either DS 2500 or a DS certificate elective, depending what is chosen above</li> <li>• CS 3390</li> </ul>	<b>Still needed to complete emphasis, certificate, and minor***:</b> <ul style="list-style-type: none"> <li>• Either DS 2500 or a DS certificate elective, depending what is chosen above</li> <li>• Take CS 3390 as your third CS minor elective</li> </ul>

\*Note: Emphases comprise 3 of the 4 required technical electives for the Mechanical Engineering major so one more is required. Current policy states that at least 2 technical electives need to be ME EN but an exception is being made for the Data Science emphasis.

\*\*All of the emphasis courses are approved technical electives in the Mechanical Engineering department.

\*\*\*DS Certificate also requires ME EN 2550 and MATH 2250 and CS minor requires Math 1210/1310 which are all covered by the major