*Unofficial Document – Updated 09/1/2023 For Advising Purposes Only*

**2024-2025 IE/CS Dual Degree Guidelines**

**Important Notes**

* Declaration of a CS major or minor is necessary for students to enroll in many upper-level COMP\_SCI courses.
* The MS in Computer Science requires 12 credits beyond the BSIE, assuming students complete the COMP\_SCI core as part of the BSIE (which is a pre-requisite for the MS in Computer Science). More information about the BS/MS program can be found on the CS website.
* Students pursuing a CS major or minor should visit the [Computer Science Undergraduate website](https://www.mccormick.northwestern.edu/computer-science/undergraduate/bachelors/).
* The only courses in the dual degree that may be taken P/N (pass/fail) are theme courses.
* This information is intended only as a guide and does not replace any official communications from the CS department. Questions about the CS major should be directed to advising@cs.northwestern.edu.

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| **Course** | **BS in Computer Science** | **BS in Industrial Engineering** |
| * Math 220-1, 220-2, 228-1
 | Math  | Math |
| * Math 228-2
 | Unrestricted Elective #1 | Math |
| * COMP\_SCI 212
 | Math (CS Core) | General Tech Elective #1 |
| * EA 1, 2, 3
 | Engineering Analysis | Engineering Analysis |
| * ESAM 245
 | Unrestricted Elective #2 | Engineering Analysis |
| * COMP\_SCI 111
 | Engineering Analysis (CS Core) | IE Major Computing Requirement |
| * 4 units science
 | Basic Science | Basic Science |
| * DTC 1, 2
 | Design and Communication | Design and Communication |
| * Comm 102/Perf 103 or 203
 | Design and Communication | Design and Communication |
| * 7 units theme
 | Theme Requirement | Theme Requirement |
| * COMP\_SCI 211
 | CS Core Major Requirement | General Tech Elective #2 |
| * CIV\_ENV 205
 | Unrestricted Elective #3 | IE Major Requirement |
| * COMP\_SCI 339
 | Breadth Requirement (Systems) | IE Major Computing Requirement (replaces COMP\_SCI 217 by petition) |
| * IEMS 303
 | CS Major Requirement | IE Major Requirement |
| * IEMS 304
 | Unrestricted Elective #4 | IE Major Requirement |
| * IEMS 313
 | Unrestricted Elective #5 | IE Major Requirement |
| * COMP\_SCI 213
 | CS Core Major Requirement | Unused Credit |
| **Course** | **BS in Computer Science** | **BS in Industrial Engineering** |
| * COMP\_SCI 150
 | CS Core Major Requirement | IE Major Computing Requirement |
| * COMP\_SCI 214
 | CS Core Major Requirement | General Tech Elective #3 |
| * COMP\_SCI 3XX
 | Breadth Requirement (Theory) | General Tech Elective #4 |
| * COMP\_SCI 3XX
 | Breadth Requirement (AI) | Unrestricted Elective #1 |
| * COMP\_SCI 3XX
 | Breadth Requirement (Interfaces) | Unrestricted Elective #2 |
| * COMP\_SCI 3XX
 | Breadth Requirement (Software) | Unrestricted Elective #3 |
| * 6 credits COMP\_SCI/COMP\_ENG/ELEC\_ENG 3XX
 | CS Technical Electives | 6 Additional Courses |
| * 2 COMP\_SCI 399/Project course
 | Project Requirement | Unrestricted Electives #4-#5 |
| * IEMS 302
 | 1 Additional Course | IE Major Requirement |
| * IEMS 315, 317
 | Advanced Electives #1-2 | IE Major Requirements |
| * IEMS 38X
 | Advanced Elective #3 | IE Major P&L Requirement |
| * IEMS 394
 | Unused Credit | IE Major Requirement |
| * 2 MS electives
 | 2 Additional Courses | MS Electives #1-#2 |
| * 3 IE/OR Electives
 | 3 Additional Courses | IE/OR Electives #1-#3 |

**Additional Curricular Notes:**

* Students unable to register for COMP\_SCI 339 will be required to take COMP\_SCI 217 to fulfill requirements for the BS in industrial engineering. This requirement will not be waived. Computer Science makes no guarantees about any student’s ability to register for COMP\_SCI 339.
* Details on courses used to fulfill the CS tech electives are found in the [undergraduate catalog](file:///C%3A%5CUsers%5Claptop%5CDocuments%5CIE%20Work%20Study%5CUpdated%20IE%20Advising%20Docs%5Ccatalogs.northwestern.edu).
* The McCormick requirement for dual degrees is to complete 54 (total) credits. Completing a dual degree in IE/CS will require 55 or 56 credits—7 or 8 credits beyond the 48 required for the BS in industrial engineering, depending on whether or not COMP\_SCI 339 can be applied towards the IE computing requirement.