*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](mailto: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:\Users\laptop\Documents\IE%20Work%20Study\Updated%20IE%20Advising%20Docs\catalogs.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.