

**Sample Pathway to Concurrent BSE in Manufacturing & Industrial & Systems Engineering (143 credits) Fall 2025**

Student Name: \_\_\_\_\_ ID#: \_\_\_\_\_

Semester 1	Semester 2	Semester 3
<input type="checkbox"/> <b>CHEM 134 + CHEM 134L</b> (4) <i>Chemistry I</i> (MATH 105* or higher, H.S. chemistry) <input type="checkbox"/> <b>ENGR 126 + ENGR 126L</b> (2) <i>Engineering Computer Graphics</i> (MATH 090* or higher) <input type="checkbox"/> <b>MATH 115</b> (4) <i>Calculus I</i> (MATH 105 'C-' or placement by exam) DDC GEQT <input type="checkbox"/> <b>DDC course</b> (3) <i>GEHA</i> See DDC master list <input type="checkbox"/> <b>COMP 105</b> (3) <i>Writing &amp; Rhetoric I</i> DDC GEWO	<input type="checkbox"/> <b>CHEM 136 + CHEM 136L</b> (4) <i>Chemistry II</i> (CHEM 134) <b>OR</b> <input type="checkbox"/> <b>BIOL 140</b> (4) <i>Intro to Molec &amp; Cell Bio</i> (CHEM 134*) <input type="checkbox"/> <b>ENGR 100 + ENGR 100L</b> (3) <i>Intro. To Engineering</i> (MATH 105* or higher) <input type="checkbox"/> <b>MATH 116</b> (4) <i>Calculus II</i> (MATH 115 'C-') <input type="checkbox"/> <b>DDC course</b> (3) <i>GESB</i>	<input type="checkbox"/> <b>MATH 215</b> (4) <i>Calculus III</i> (MATH 116 'C-') <input type="checkbox"/> <b>PHYS 150 + PHYS 150L</b> (4) <i>Physics I</i> (MATH 115*: recommended as pre-req) DDC GENS <input type="checkbox"/> <b>ENGR 250 + ENGR 250R</b> (3) <i>Engineering Materials</i> (MATH 115*, CHEM 136*) <input type="checkbox"/> <b>IMSE 255</b> (3) <i>Comp. Programming</i> (MATH 105, ENGR 100*) <b>Fall only</b> <input type="checkbox"/> <b>IMSE 317</b> (3) <i>Engr. Probability &amp; Statistics</i> (MATH 116)
Semester 4	Semester 5	Semester 6
<input type="checkbox"/> <b>MATH 228</b> (4) <i>Diff. Equations w/ Linear Algebra</i> (MATH 116 'C-') <input type="checkbox"/> <b>PHYS 151 + PHYS 151L</b> (4) <i>Physics II</i> (PHYS 150, MATH 116*) fulfills DDC GENS <input type="checkbox"/> <b>ME 260</b> (4) <i>Design Stress Analysis</i> (PHYS 150, ENGR 250*, MATH 215*) <b>OR</b> <input type="checkbox"/> <b>ME 265</b> (4) <i>Applied Mechanics</i> (PHYS 150, MATH 215*) <input type="checkbox"/> <b>ME 230</b> (4) <i>Thermodynamics</i> (PHYS 150, MATH 116, CHEM 134)	<input type="checkbox"/> <b>IMSE 3005</b> (4) <i>Operations Research</i> (MATH 228, IMSE 317*) - <b>Fall only</b> <input type="checkbox"/> <b>IMSE 4585</b> (4) <i>Simulation in Sys. Design</i> (IMSE 317, IMSE 255, IMSE 3005*) - <b>Fall only</b> <input type="checkbox"/> <b>ECE 305 + ECE 305L</b> (4) <i>Intro. to Electrical Engineering</i> (PHYS 151, MATH 215 'C-', MATH 228*) <input type="checkbox"/> <b>IMSE 4425</b> (4) <i>Human Factors &amp; Ergonomics</i> (IMSE 317) - <b>Fall only</b>	<input type="checkbox"/> <b>IMSE 382 + IMSE 382L</b> (4) <i>Manufacturing Processes I</i> (ENGR 250, ME 260 'C' or ME 265) <input type="checkbox"/> <b>IMSE 440</b> (3) <i>Applied Stat. Models in Engr.</i> (IMSE 317) - <b>Winter only</b> <input type="checkbox"/> <b>IMSE 421</b> (3) <i>Engr. Economy &amp; Decision Analysis</i> (Junior or Senior status required) DDC GEIN <input type="checkbox"/> <b>IMSE 4675</b> (4) <i>Six Sigma &amp; Statistical Process Improvement</i> (IMSE 317) - <b>Winter only</b> <input type="checkbox"/> <b>COMP 270</b> (3) <i>Technical Writing</i> (COMP 105, 35 completed credits) DDC GEWO

Semester 7	Semester 8	Semester 9
<input type="checkbox"/> <b>IMSE 4951 (2) Senior Design 1</b> (IMSE 421*, IMSE 4795* IMSE 4835* or IMSE 4585*, and COMP 270*)- <b>Fall and Winter only</b> <input type="checkbox"/> <b>Tech/Prof. Elective (3-4)</b> <input type="checkbox"/> <b>ECON 201 or 202 (3) Macroeconomics or Microeconomics</b> (MATH 105 recommended) DDC GESB <input type="checkbox"/> <b>DDC course (3) GEHA</b> <input type="checkbox"/> <b>GENERAL ELECTIVE (3-4)</b> <input type="checkbox"/> <b>DDC course (3) GEIN - only take if needed!</b> (ENGR 400, ENGR 360, and ENT 400 can double fulfill tech electives and Intersections)	<input type="checkbox"/> <b>IMSE 4952 (2) Senior Design 2</b> (IMSE 4951, IMSE 4425*, IMSE 440* and IMSE 4675*) <b>-Fall and Winter only</b> <input type="checkbox"/> <b>IMSE 4835 (4) CAD Process Design</b> (IMSE 382, Senior standing) <input type="checkbox"/> <b>MFGE Elective (3-4) ONE of:</b> IMSE 381 (4), IMSE 488 (3), ENGR 350 (4), ME 460 (3), ME 4191 (4) (check individual courses for pre-reqs and scheduling) <input type="checkbox"/> <b>TECH/PROF. Elective (3-4)</b> <input type="checkbox"/> <b>DDC course (3) GESB</b>	<input type="checkbox"/> <b>IMSE 4745 (4) Facilities Design</b> (IMSE 3005*) - <b>Winter only</b> <input type="checkbox"/> <b>IMSE 4795 (4) Production, Inventory Control, Lean Manufacturing</b> (IMSE 317) - <b>Winter only</b> <input type="checkbox"/> <b>IMSE 4825 (4) Industrial Controls</b> (ME 265, ECE 305*) - <b>Winter only</b> <b>OR</b> <b>ME 442 (4) Control Systems Analysis</b> (ECE305, ME 265) <input type="checkbox"/> <b>IMSE 4555 (4) Sys Engr: Proc Method &amp; Practice</b> (IMSE 3005) - <b>Winter Only</b>
NOTES	Professional/Tech/General Elective Notes	Professional/Tech Electives
<ul style="list-style-type: none"> <li>• The sample pathways were created with Fall and Winter semester enrollment in mind. Summer semesters can be used to lessen the workload, and/or participate in co-op or research.</li> <li>• For DDC requirements, please see the University's <a href="#">guidelines</a></li> <li>• Each student's pathway is unique and may differ slightly from this one</li> <li>• A course may fulfill multiple requirements; however, credit is only applied once. Using one course to fulfill multiple requirements may result in a deficiency in total credits.</li> </ul>	<ul style="list-style-type: none"> <li>• Students must take at least 7-8 credits of professional/tech elective courses</li> <li>• A general elective course is required in order to reach the 143 credit requirement. Students can take whatever course(s) they like long as it is <b>NOT</b> on the <a href="#">no credit list</a>.</li> <li>• Check design/tech courses' prerequisites, corequisites, course credit and schedule in <a href="#">DegreeWorks</a>, the <a href="#">Undergrad Catalog</a> and <a href="#">Browse Classes</a>.</li> </ul>	IMSE 351 (3), IMSE 456 (4), IMSE 453 (4), IMSE 4545 (4), IMSE 486 (3), ENGR 360 (4) (DDC GEIN), ACC 298 (3), ACC 299 (3), OB 354 (3), OB 401 (3), OB 402 (3), LE 452 (3), ENT 400 (3) (DDC GEIN), MKT 352 (3). ENGR 399 (1), ENGR 400 (3) ENGR 492 (1-3), ENGR 493 (1-3) - CECS Experiential Honors Program, by permission

\* denotes a corequisite course

Courses listed in parentheses () are prerequisites for the listed course