

Sample Pathway to BSE in Human Centered Engineering Design (128 credits) **Fall 2024**

Semester 1	Semester 2	NOTES
<input type="checkbox"/> <b>ENGR 100 + ENGR 100L (3) <i>Intro to Engineering and Computers</i></b> (MATH 105 placement or higher) <input type="checkbox"/> <b>MATH 115 (4) <i>Calculus I</i></b> (MATH 105 'C-' or placement) DDC GECT <input type="checkbox"/> <b>PHYS 150 + PHYS 150L (4) <i>Physics I</i></b> (MATH 115*: recommended as pre-req) <input type="checkbox"/> <b>COMP 105 (3) <i>Composition I</i></b> (by placement) DDC GEWO <input type="checkbox"/> <b>HCED 220 (2) <i>Engineering Design Communication</i></b> (COMP 105*) - <b>Fall only</b>	<input type="checkbox"/> <b>PHYS 151 + PHYS 151L (4) <i>Physics II</i></b> (PHYS 150, MATH 116*) DDC GENS <input type="checkbox"/> <b>ANTH 101 (3) <i>Intro to Anthropology</i></b> DDC GESB <input type="checkbox"/> <b>ARTH (3) - choose one from list</b> (DDC GEHA) <input type="checkbox"/> <b>ENGR 360 (4) <i>Design Thinking</i></b> DDC GEIN <input type="checkbox"/> <b>MATH 116 (4) <i>Calculus II</i></b> (MATH 115 'C-')	<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><b>ARTH course - Choose one:</b> ARTH101, ARTH102, ARTH103, ARTH106, ARTH221, ARTH241, ARTH261, ARTH305, ARTH312, ARTH313, ARTH315, ARTH327, ARTH333, ARTH334, ARTH335, ARTH343, ARTH352, ARTH362, ARTH363, ARTH367, ARTH368</li> </ul>
Semester 3	Semester 4	CONCENTRATIONS NOTES
<input type="checkbox"/> <b>ECE 210 (4) <i>Circuits</i></b> (MATH 116, PHYS 151 *) <input type="checkbox"/> <b>ART 210 (3) <i>Intro to Digital Art</i></b> DDC GECC - <b>Fall only</b> <input type="checkbox"/> <b>ENGR 250 + ENGR 250R (3) <i>Engineering Materials</i></b> (CHEM 134, MATH 115) <input type="checkbox"/> <b>CHEM 134 (4) <i>General Chemistry I</i></b> (MATH 115) <input type="checkbox"/> <b>Programming Course (depending on concentration) (2-4) (<i>IMSE 255 or CIS 150 or CIS 1501 or ECE 270 or ENGR 216</i>)</b>	<input type="checkbox"/> <b>ME 265 or ME 260 (4) <i>Applied Mechanics/Design Stress</i></b> (check Concentration requirements and Pre-reqs) <input type="checkbox"/> <b>HCED 380 (4) <i>Product Prototyping: Tools and Techniques</i></b> (ENGR 360, programming course), (HCED 370*) - <b>Winter only</b> <input type="checkbox"/> <b>HCED 370 (3) <i>Needfinding &amp; Research Methods in Design</i></b> (ENGR 360) - <b>Winter only</b> <input type="checkbox"/> <b>COMP 270 (3) <i>Technical Writing</i></b> (COMP 105) DDC GEWO <input type="checkbox"/> <b>Biology Curriculum Requirement (4) <i>BIOL 103 + BIOL 103L or BENG 200</i></b>	<p><b>A student pursuing a concentration (1), (2), (3), or (4)-below, must complete a minimum four courses from that specific Concentration.</b></p> <p><b>INDIVIDUALIZED CONCENTRATION: Complete at least three courses from concentrations (1) through (4) -below, plus one additional course.</b></p> <p><b>When choosing concentration/elective courses, make sure you reach 128 total credits.</b></p> <p><b>**Check courses' prerequisites, corequisites, course credit and schedule in <a href="#">DegreeWorks</a>, the <a href="#">Undergrad Catalog</a> and <a href="#">Browse Classes</a>.</b></p>

\* denotes a corequisite course

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

(MATH 115*)		
<b>Semester 5</b>	<b>Semester 6</b>	<b>CONCENTRATIONS NOTES</b>
<input type="checkbox"/> <b>IMSE 317</b> (3) <i>Probability &amp; Statistics for Engineers</i> (MATH 116) <input type="checkbox"/> <b>HCED 450</b> (4) <i>Product Realization: Design &amp; Making</i> (HCED 380, ENGR 250, one of: ME 260 or 265*, ECE 210, programming course) - <b>Fall only</b> <input type="checkbox"/> <b>MATH 228</b> (4) <i>Diff Equat w/ Linear Alg</i> (MATH 116 'C-') <input type="checkbox"/> <b>Business Elective</b> (3) Choose one of: MKT 382, OB 354, ENT 400, BA 320 <input type="checkbox"/> <b>Concentration course</b> (3-4) (Check Concentrations for courses and pre-reqs - <u>it's important to select a concentration early to plan for prerequisites</u> )	<input type="checkbox"/> <b>IMSE 421</b> (3) <i>Engr. Economy &amp; Decision Making</i> DDC GEIN <input type="checkbox"/> <b>IMSE 382</b> (4) <i>Manufacturing Processes</i> (ENGR 250, one of: ME 260 or 265) <input type="checkbox"/> <b>ART 410</b> (3) <i>Advanced Digital Art</i> (ART 210) DDC GEHA - <b>Winter only</b> <input type="checkbox"/> <b>Business Elective</b> (3) Choose one of: MKT 382, OB 354, ENT 400, BA 320 <input type="checkbox"/> <b>Concentration course</b> (3-4) (check Concentrations for courses and pre-reqs)	<b>1. Mechanical Engineering Design Concentration:</b> ME 345 (4), ME 3601 (4), ME 4191 (4), ME 460 (3), ME 4981 (4), ENGR 350 (4)  <b>2. Elect and Computer Engineering Design:</b> ECE 273 (4), ECE 311 (4), ECE 329 (4), ECE 413 (3), ECE 3731 (4), ECE 471 (4), ECE 450 (4), ECE 460 (4), ECE 473 (4), ECE 4951 (3), IMSE 477 (3)  <b>3. Software Engineering and UX Design:</b> CIS 200 (4) or CIS 2001 (4), CIS 275 (3), CIS 285 (3), CIS 350 or CIS 3501, CIS 375 (4), CIS 435 (3), CIS 436 (3), CIS 411 (3), CIS 479 (3), IMSE 477 (3)
<b>Semester 7</b>	<b>Semester 8</b>	<b>CONCENTRATIONS NOTES</b>
<input type="checkbox"/> <b>HCED 4951</b> (2) <i>Senior Design I</i> See DDC master list for options (HCED 450) - <b>Fall and Winter only</b> <input type="checkbox"/> <b>DDC course</b> (3) GESB  <input type="checkbox"/> <b>IMSE 4425</b> (4) <i>Human Factors &amp; Ergonomics</i> (IMSE 317) - <b>Fall only</b> <input type="checkbox"/> <b>Concentration course</b> (3-4) (check Concentrations for courses and pre-reqs)	<input type="checkbox"/> <b>HCED 4952</b> (2) <i>Senior Design II</i> (HCED 4951) - <b>Fall and Winter only</b> <input type="checkbox"/> <b>General Elective(s)</b> -as required for total 128 credits for degree <input type="checkbox"/> <b>Concentration course</b> (3-4) (check Concentrations for courses and pre-reqs) <input type="checkbox"/> <b>DDC course</b> (3) GESB	<b>4. Systems Engineering Design Concentration:</b> IMSE 3005, IMSE 440 (3), IMSE 4795 (4), IMSE 455 (3), IMSE 477 (3), IMSE 4835 (4), BA 320 (3), IMSE 4585 (4)  <b>Other Tech. Electives:</b> COMM 300 (3), ESCI 275 (3), COMM 340 (3), ENST 340 (3), ESCI 490B (3), ANTH 460 (3), ANTH 470 (3)  <ul style="list-style-type: none"> <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>

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