

Sample Pathway to BSE in Human Centered Engineering Design (128 credits) **Fall 2026**

Semester 1	Semester 2	NOTES
<input type="checkbox"/> ENGR 100 + ENGR 100L (3) <i>Intro to Engineering and Computers</i> (MATH 105 placement or higher) <input type="checkbox"/> MATH 115 (4) <i>Calculus I</i> (MATH 105 'C-' or placement) DDC GECT <input type="checkbox"/> PHYS 150 + PHYS 150L (4) <i>Physics I</i> (MATH 115*: recommended as pre-req) <input type="checkbox"/> COMP 105 (3) <i>Composition I</i> (by placement) DDC GEWO <input type="checkbox"/> HCED 220 (2) <i>Engineering Design Communication</i> (COMP 105*) - Fall only	<input type="checkbox"/> PHYS 151 + PHYS 151L (4) <i>Physics II</i> (PHYS 150, MATH 116*) DDC GENS <input type="checkbox"/> COMP 270 (3) <i>Technical Writing</i> (COMP 105) DDC GEWO <input type="checkbox"/> ARTH (3) - choose one from list to the right (DDC GEHA) <input type="checkbox"/> ENGR 360 (4) <i>Design Thinking</i> DDC GEIN <input type="checkbox"/> MATH 116 (4) <i>Calculus II</i> (MATH 115 'C-')	<ul style="list-style-type: none"> 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. For DDC requirements, please see the University's guidelines Each student's pathway is unique and may differ slightly from this one <p>ARTH course - Choose one: ARTH101, ARTH102, ARTH103, ARTH106, ARTH221, ARTH241, ARTH261, ARTH305, ARTH312, ARTH313, ARTH315, ARTH327, ARTH333, ARTH334, ARTH335, ARTH343, ARTH352, ARTH362, ARTH363, ARTH367, ARTH368</p>
Semester 3	Semester 4	CONCENTRATIONS NOTES
<input type="checkbox"/> ENGR 250 + ENGR 250R (3) <i>Engineering Materials</i> (CHEM 134, MATH 115) <input type="checkbox"/> ECE 210 (4) <i>Circuits</i> (MATH 116, PHYS 151 *) <input type="checkbox"/> ANTH 101 (3) <i>Intro to Anthropology</i> DDC GESB <input type="checkbox"/> CHEM 134 (4) <i>General Chemistry I</i> (MATH 115) <input type="checkbox"/> Programming Course (2-4) (<i>IMSE 255 or CIS 150 or CIS 1501 or ECE 270 or ENGR 200</i>) (MATH 115*)	<input type="checkbox"/> ME 265 or ME 260 (4) <i>Applied Mechanics/Design Stress</i> (check Concentration requirements and Pre-reqs) <input type="checkbox"/> HCED 380 (4) <i>Product Prototyping: Tools and Techniques</i> (ENGR 360, programming course, HCED 220*, HCED 370*) - Winter only <input type="checkbox"/> HCED 370 (3) <i>Needfinding & Research Methods in Design</i> (ENGR 360) - Winter only <input type="checkbox"/> ART 210 (3) <i>Intro to Digital Art</i> DDC GECC - Fall only <input type="checkbox"/> Biology Curriculum Requirement (4) <i>BIOL 203 + BIOL 203L or BENG 200</i>	<p>A student pursuing a concentration (1), (2), (3), (4), or (5)-below, must complete three to four courses depending on what concentration they choose.</p> <p>It's important to select a concentration early to plan for prerequisites</p> <p>When choosing concentration/elective courses, make sure you reach 128 total credits.</p> <p>ENGR 299 (1), ENGR 399 (1), and ENGR 499 (1) can be counted as credit towards all concentrations</p> <p>**Check courses' prerequisites, corequisites, course credit and schedule in DegreeWorks, the Undergrad Catalog and Browse Classes.</p>
Semester 5	Semester 6	CONCENTRATIONS NOTES

* denotes a corequisite course

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

- IMSE 317 (3) Probability & Statistics for Engineers**
(MATH 116)
- HCED 450 (4) Product Realization: Design & Making** (HCED 380, ENGR 250*, one of: ME 260* or 265*, ECE 210*) - **Fall only**
- MATH 228 (4) Diff Equat w/ Linear Alg**
(MATH 116 'C-')
- HCED 380L (1) Prototyping Tools & Techniques**
(HCED 380) - **Fall only**
- Business Elective (3)** Choose one of:
MKT 382, OB 354, ENT 400, BA 320
- Concentration course (3-4)**
(Check Concentrations for courses and pre-reqs)

- IMSE 421 (3) Engr. Economy & Decision Making**
DDC GEIN
- IMSE 382 (4) Manufacturing Processes**
(ENGR 250, one of: ME 260 or 265)
- ART 410 (3) Advanced Digital Art**
(ART 210) DDC GEHA - **Winter only**
- Business Elective (3)** Choose one of:
MKT 382, OB 354, ENT 400, BA 320
- Concentration course (3-4)**
(check Concentrations for courses and pre-reqs)
- HCED 450L (1) Design, Pitch, and Make**
(HCED 450) - **Winter only**

- 1. Mechanical Engineering Design Concentration:**
Choose four of the following: ME 345 (4), ME 3601 (4), ME 4191 (4), ME 460 (3), ME 4981 (4), ENGR 350 (4)
- 2. Elect and Computer Engineering Design:**
Choose four of the following: 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)
- 3. Software Engineering and UX Design:**
- CIS 200 (4) or CIS 2001 (4), and CIS 350 (4) or 3501 (4) are required
 - *Choose one of the following:* CIS 275 (3), CIS 285 (3), CIS 375 (4), CIS 435 (3), CIS 436 (3), CIS 411 (3), CIS 479 (3), IMSE 477 (3)

Semester 7

Semester 8

CONCENTRATIONS NOTES

- HCED 4951 (2) Senior Design I**
(HCED 450) - **Fall and Winter only**
- DDC course (3) GESB**
- IMSE 4425 (4) Human Factors & Ergonomics**
(IMSE 317) - **Fall only**
- Concentration course (3-4)**
(check Concentrations for courses and pre-reqs)

- HCED 4952 (2) Senior Design II**
(HCED 4951, IMSE 4425*, IMSE 421*, IMSE 382*) - **Fall and Winter only**
- General Elective(s)** -as required for total 128 credits for degree
- Concentration course (3-4)**
(check Concentrations for courses and pre-reqs)
- DDC course (3) GESB**

- 4. Systems Engineering Design Concentration:**
Choose four of the following: IMSE 3005, IMSE 440 (3), IMSE 4795 (4), IMSE 455 (3), IMSE 477 (3), IMSE 4835 (4), BA 320 (3), IMSE 4585 (4)
- 5. Individualized Concentration:**
Complete at least three courses from concentrations (1) through (4) -below, plus one additional concentration course, or a technical elective.
Tech. Electives Course Options: COMM 300 (3), ESCI 275 (3), COMM 340 (3), ENST 340 (3), ESCI 490B (3), ANTH 470 (3)
- 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.*

* denotes a corequisite course

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