COLLEGE OF ENGINEERING & COMPUTER SCIENCE
DEARBORN | UNIVERSITY OF MICHIGAN-DEARBORN

Student Name: _____ ID#:_____

Sample Pathway to Concurrent BSE in Bioengineering and Mechanical Engineering (143 credits) **Fall 2026**

Semester 1	Semester 2	Semester 3
❑ **CHEM 134 + CHEM 134L** (4) *Chemistry I* (MATH 105* or higher, H.S. chemistry) DDC GENS ❑ **ENGR 126 + ENGR 126L** (2) *Engineering Computer Graphics* (MATH 090* or higher) ❑ **MATH 115** (4) *Calculus I* (MATH 105 'C-' or placement) DDC GECT ❑ **BENG 200** (4) *Anatomy and Physiology for Engineers* ❑ **COMP 105** (3) *Writing & Rhetoric I* (COMP 099 or placement) DDC GEWO	❑ **CHEM 136 + CHEM 136L** (4) *Chemistry II* (CHEM 134) DDC GENS ❑ **ENGR 100 + ENGR 100L** (3) *Intro. To Engineering* (MATH 105* or higher) ❑ **MATH 116** (4) *Calculus II* (MATH 115 'C-') ❑ **BIOL 140 + BIOL 140L** (4) Intro to Molecular & Cellular Biology (CHEM 134*) ❑ **COMP 270** (3) *Technical Writing* (COMP 105 or placement) DDC GEWO	❑ **MATH 215** (4) *Calculus III* (MATH 116 'C-') ❑ **PHYS 150 + PHYS 150L** (4) *Physics I* (Math 115*: recommended as pre-req) ❑ **ENGR 250 + ENGR 250R** (3) *Engineering Materials* (CHEM 134, Math 115*, CHEM 136*) ❑ **ECON 201 or 202** (3) *Macroeconomics or Microeconomics* (MATH 105) DDC GESB
Semester 4	**Semester 5**	**Semester 6**
❑ **MATH 228** (4) *Diff Eq w/ Linear Algebra* (Math 116 'C-') ❑ **PHYS 151 + PHYS 151L** (4) *Physics II* (PHYS 150, MATH 116*) fulfills DDC GENS ❑ **ENGR 200 + 200L** (4) *Modern Comp Programming for Engineers* (ENGR 100, Math 228*) ❑ **ME 260 + ME 260R** (4) *Design Stress Analysis* (PHYS 150, ENGR 250*, MATH 215*) ❑ **ME 230 + ME 230R** (4) Thermodynamics (PHYS 150, ENGR 250*, MATH 215)	❑ **ME 320 + 320L** (4) *Fluid Mechanics* (ME 230 'C', ME 260, ENGR 200*) ❑ **ME 345** (4) *Engineering Dynamics* (MATH 228, ME 260 'C') ❑ **ECE 305 + ECE 305L** (4) *Intro. To Electrical Engineering* (PHYS 151, Math 215, MATH 228*) ❑ **BENG 364** (3) *BENG Probability & Statistics* (MATH 116)	❑ **BENG 370** (4) *Biomechanics I* (ME 345, MATH 228) ❑ **BENG 375** (4) *Biomaterials, Tissue Engineering* (BIOL 140, ENGR 250) ❑ **BENG 351+ BENG 351L** (4) *Bio-Sensors & Instrumentation* (MATH 228, BENG 200, BIOL 140, ECE 305, ENGR 216) ❑ **BENG 300** (1) *Codes, Standards, & Regulations in Biomedical Engineering* (BENG 200) ***Note: Winter-only course for now***

* denotes a corequisite course
Courses listed in parentheses () are prerequisites for the listed course

Semester 7	Semester 8	Semester 9
❑ **ME 3601** (4) *Design & Analysis of Machine Elements* (ME 260, ENGR 216) ❑ **BENG Design/Tech elective** (3-4) (check individual courses for pre-reqs) ❑ **ME 355** (4) *Modeling and Analysis of Dynamic Systems* (ME 345, ECE 305) ❑ **DDC course** (3) *GESB*	❑ **ME 442 + ME 442L** (4) *Control Systems Analysis* (ECE 305, ME 345) ❑ **BENG Design/Tech elective** (3-4) (check individual courses for pre-reqs) ❑ **DDC course** (3) *GESB* ❑ **BENG 381** (4) *Bioprocessing* **OR** **ME 381 + ME 381L** (4) *Manufacturing processes I* (see undergrad catalog for prereq requirements)	❑ **ME 4681** (4) *Senior Design* ((BENG 351, BENG 370, ME 320, ME 3601, (BENG 375 or BENG 381))) ❑ **ME 371 + 371L** (4) *Heat Transfer* (ME 320, ECE 305*) ❑ **DDC course** (3) *GEHA* ❑ **DDC course** (3) *GEHA*

NOTES	BEME Design/Tech Electives	Possible Tracks/Certificates
• 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 • See DDC master list for GESB/GEHA options • 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. • Check the BEME elective courses' prerequisites, corequisites, course credit and schedule in DegreeWorks, the Undergrad Catalog and Browse Classes.	*Design Electives:* BENG 426 (4), BENG 450 (3), BENG 451 (3), BENG 460 (4), BENG 470 (3), BENG 481 (3), BENG 480 (3), ENGR 360 (3), ME 4191 (4), ME 4202 (4), ME423 (4), ME 4361 (4), ME 440 (3), ME 445 (3), ME 4461 (4), ME 4471 (4), ME 4500 (3), ME 452 (4), ME 460 (3), ME 469 (1-4), ME 472 (4), ME 483 (3), ME 493 (3), ME 490 or BENG 490 or ENGR 493 (1-3) *Upper-Level Tech Electives:* BENG 410 (3), BENG 425 (3), BENG 475 (3), ENGR 345 (3), ENGR 350 (4), ME 410 (3), ME 4301 (3), ME 4550 (3), ME 481 (3), ME 491 (1-3), ME 492 or BENG 492 or ENGR 492 (1-3), ME 496 (3), ME 4981 (4), ENGR 350 (4), IMSE 381 (3), IMSE 440 (3), IMSE 4675(4), IMSE 4425 (4), CHEM 225 (3), CHEM 226 (3), CHEM 227 (2), CHEM 437 (3), BCHM 370 (3), ENGR 299 (1), ENGR 399 (1), ENGR 492 (1), ENGR 499 (1), ME 4640 (3), ME 4910 (3), ME 4950 (3) • **6 credits total** needed, at least **three** credits (1 course) must be Design Electives • At least **6 credits (2 courses)** must be ME or BENG	*Counts for Design/Tech elective credit. Select a minimum of 9 credit hours in one category* **Energy and Sustainability** ME 4202, ME 423, ME 4301, ME 4361, ME 4471, ME 452, ME 493, ME 496 **Engineering Design** ME 410, ME 4191, ME 4202, ME 423, ME 4301, ME 4361, ME 4471, ME 452, ME 460, ME 469, ME 472, ME 483, ME 493, ME 490, ENGR 360, BENG 451, ME 440, ME 445, ME 4461, BENG 470, BENG 481, ME 4500 **Engineering Mechanics** ME 410, ME 4191, ME 440, ME 445, ME 4461, BENG 370, BENG 470 **Materials and Manufacturing** ME 460, ME 481, ME 483, ENGR 350, BENG 375, ME 4950, ME 4910 **Vehicles and Mobility** ME 410, ME 472, ME 493, ME 496, ME 4981, ME 4910, ME 4500 **Mechatronics and Robotics** ME 440, ME 445, ME 4461, ME 472, IMSE 381, ME 4640

* denotes a corequisite course

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