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

Student Name: _____ ID#:_____

Sample Pathway to Concurrent BSE in Mechanical and Manufacturing Engineering (143 credits) **Fall 2024**

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 ❑ **DDC course** (3) GESB ❑ **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-') ❑ **ECON 201 or 202** (3) *Macroeconomics* or *Microeconomics* (MATH 105) DDC GESB ❑ **DDC course** (3) GEHA	❑ **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*) ❑ **DDC course** (3) GEHA ❑ **DDC course** (3) 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 216** (2) *Computer Methods* (ENGR 100, ENGR 126*, Math 228*) ❑ **ME 260 + ME 260R** (4) *Design Stress Analysis* (PHYS 150, ENGR 250*, MATH 215*) ❑ **COMP 270** (3) *Technical Writing* (COMP 105, 35 completed credits) DDC GEWO	❑ **ME 230 + ME 230R** (4) *Thermodynamics* (PHYS 150, Math 116, CHEM 134) ❑ **ME 345** (4) *Engineering Dynamics* (MATH 228, ME 260 'C', ENGR 216*) ❑ **ECE 305 + ECE 305L** (4) *Intro. To Electrical Engineering* (PHYS 151, Math 215, MATH 228*) ❑ **ME 364** (3) *Probability, Statistics, & Reliability in Machine Design* (ENGR 216,ME 260, Math 228)	❑ **ME 325** (4) *Thermal Fluid Sciences I* (ME 230 'C', ME 260, ENGR 216) ❑ **ME 3601** (4) *Design & Analysis of Machine Elements* (ME 260, ENGR 216) ❑ **IMSE 440** (3) *Applied Statistical Models in ENGR.* - **Winter only** (IMSE 364) ❑ **ME 381 + ME 381L** (4) *Mfg. Processes I* (ENGR 250 'C', ME 260) **OR** **IMSE 382 + IMSE 382L** (4) *Mfg Processes I* (ENGR 250, ME 260 or ME 265)

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

Semester 7	Semester 8	Semester 9
❑ **IMSE 421** (3) Engr. Economy & Decision Analysis (Jr. or Sr. status required) DDC GEIN ❑ **IMSE 4425** (4) Human Factors & Ergonomics - **Fall only** (ME 364) ❑ **IMSE 4835** (4) CAS Process Design - **Fall only** (IMSE 382 or ME 381) ❑ **ME 375** (4) Thermal Fluid Sciences I (ME 325, ECE 305*)	❑ **ME 349 + ME 349L** (3) Instrumentation & Measurement Systems (ECE 305, ME 345) ❑ **IMSE 4675** (4) Six Sigma & Statistical Process Improvement - **Winter only** (ME 364) ❑ **IMSE 4795** (4) Production, Inventory Control, Lean Manufacturing - **Winter only** (ME 364) ❑ **MFGE** elective (3-4) (see next panel for options)	❑ **ME 442 + ME 442L** (4) Control Systems Analysis (ECE 305, ME 345) ❑ **ME Design elective** (3-4) (see next panel for options) ❑ **ME 379** (3) Thermal Fluids Lab (ME 325, ME 349, COMP 270, ME 375*) ❑ **ME 4671**(4) Senior Design -**not offered in Summer** (ME 345, ME 3601, ME 375, ME 379*) DDC GEIN,GECE, GEWI ❑ **IMSE 4953** (1) Senior Design Project in MFGE

NOTES	Upper-Level ME Design Elective Courses	MFGE Elective Courses
• 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 • Check the ME/MFGE elective courses' prerequisites, corequisites, course credit and schedule in DegreeWorks, the Undergrad Catalog and Browse Classes. • 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.	**Choose one course** ME 4191 (4), ME 423 (4), ME 4361 (4), ME 440 (3), ME 445 (4), ME 4471 (4), ME 4500 (3), ME 460 (4), ME 472 (4), ME 483 (3), ME 493 (3), ME 490 or ENGR 493 (1-3) (permission required), ME 469 (1-4) (permission required) - **check schedule for terms offered**	**Choose one course** ENGR 350(4), IMSE 381 (4), ME 4191 (4), ME 460 (3), IMSE 488 (3), ME 4910 (3), ME 4950 (3) **- check schedule for terms offered** **General Electives - however many needed to reach 143** ● ENGR 399 (1), ENGR 492 (1-3) taken to fulfill CECS Experiential Honors Program may count here ● Any other courses not on the no credit list

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