

Sample Pathway to BSE in Bioengineering (128 credits) **Fall 2023**

Semester 1	Semester 2	NOTES
<input type="checkbox"/> CHEM 134 + CHEM 134L (4) <i>Chemistry I</i> (MATH 105* or higher) DDC GENS <input type="checkbox"/> ENGR 126 + ENGR 126L (2) <i>Engineering Computer Graphics</i> (MATH 090* or higher) <input type="checkbox"/> MATH 115 (4) <i>Calculus I</i> (MATH 105 'C-' or placement) DDC GECT <input type="checkbox"/> BENG 200 (4) <i>Anatomy & Physiology for Engineers</i> <input type="checkbox"/> COMP 105 (3) <i>Composition I</i> DDC GEWO	<input type="checkbox"/> CHEM 136 + CHEM 136L (4) <i>Chemistry II</i> (CHEM 134) DDC GENS <input type="checkbox"/> ENGR 100 + ENGR 100L (3) <i>Intro. To Engineering</i> (MATH 105* or higher) <input type="checkbox"/> MATH 116 (4) <i>Calculus II</i> (MATH 115 'C-') <input type="checkbox"/> BIOL 140 + BIOL 140L (4) <i>Intro. To Molecular & Cellular Biology</i> (CHEM 134*)	<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
Semester 3	Semester 4	NOTES
<input type="checkbox"/> MATH 215 (4) <i>Calculus III</i> (MATH 116 'C-') <input type="checkbox"/> PHYS 150 + PHYS 150L (4) <i>Physics I</i> (Math 115*: recommended as pre-req) <input type="checkbox"/> ENGR 250 + ENGR 250R (3) <i>Engineering Materials</i> (CHEM 134, MATH 115, CHEM 136*) <input type="checkbox"/> DDC course (3) GEHA See DDC master list for options <input type="checkbox"/> ECON 201 or 202 (3) <i>Macroeconomics or Microeconomics</i> (MATH 105) DDC GESB	<input type="checkbox"/> PHYS 151 + PHYS 151L (4) <i>Physics II</i> (PHYS 150, MATH 116*) DDC GENS <input type="checkbox"/> ENGR 216 (2) <i>Computer Methods</i> (ENGR 100, ENGR 126*, Math 228*) <input type="checkbox"/> ME 230 + ME 230R (4) <i>Thermodynamics</i> (PHYS 150, MATH 116, CHEM 134) <input type="checkbox"/> ME 265 (4) <i>Applied Mechanics</i> (PHYS 150, MATH 215*) <input type="checkbox"/> MATH 228 (4) <i>Diff Equ w/ Linear Algebra</i> (Math 116 'C-')	<ul style="list-style-type: none"> 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

Semester 5	Semester 6	BENG Design/Tech Elective Courses
<ul style="list-style-type: none"> <input type="checkbox"/> BENG 325 (4) <i>Thermal Fluid for BENG</i> (ENGR 216, ME 230, ME 265) Note: Fall-only class <input type="checkbox"/> BENG 370 (4) <i>Biomechanics I</i> (ME 265, MATH 228) <input type="checkbox"/> ECE 305 + ECE 305L (4) <i>Intro. To Electrical Engineering</i> (PHYS 151, MATH 215, MATH 228*) <input type="checkbox"/> DDC course (3) GESB See DDC master list for options <input type="checkbox"/> COMP 270 (3) <i>Technical Writing</i> (COMP 105, 35 completed credits) DDC GEWO 	<ul style="list-style-type: none"> <input type="checkbox"/> BENG 375 (4) <i>Biomaterials, Tissue Engineering</i> (BIOL 140, ENGR 250) <input type="checkbox"/> BENG 351 (4) <i>Bio-Sensors & Instrumentation</i> (MATH 228, BENG 200, BIOL 140, ECE 305, ENGR 216) <input type="checkbox"/> BENG Design / Tech Elective (3) (check individual courses for pre-reqs) <input type="checkbox"/> DDC course (3) GEHA See DDC master list for options 	<ul style="list-style-type: none"> • BENG design/tech electives must total at least 18 credits, • 1 course must be a design elective • 9 credits (3 courses) Upper-level Electives must be BENG • <i>BENG Design Elective Courses:</i> BENG 426, BENG 450, BENG 451, BENG 460, BENG 470, BENG 481, ME 3601, ME 445, ME 472, ENGR 360, BENG 490, ENGR 493
Semester 7	Semester 8	
<ul style="list-style-type: none"> <input type="checkbox"/> BENG 364 (3) <i>Probability & Statistics</i> (MATH 116) <input type="checkbox"/> BENG 381 (4) <i>Bioprocessing</i> (BENG 325, BIOL 140, CHEM 136) DDC GEIN <input type="checkbox"/> BENG Design / Tech elective (4) (check individual courses for pre-reqs) <input type="checkbox"/> BENG Design / Tech elective (3) (check individual courses for pre-reqs) 	<ul style="list-style-type: none"> <input type="checkbox"/> BENG 4671(4) <i>Senior Design</i> (BENG 325, BENG 351, BENG 370, BENG 364, &(BENG 375 or BENG 381)) DDC GECE, GEWI; Note: not offered in Summer <input type="checkbox"/> BENG Design /Tech elective (4) (check individual courses for pre-reqs) <input type="checkbox"/> BENG Design / Tech elective (4) (check individual courses for pre-reqs) <input type="checkbox"/> DDC course (3) GESB See DDC master list for options 	<ul style="list-style-type: none"> • <i>BENG Tech Elective Courses:</i> BENG 410, BENG 425, BENG 475, BENG 492, ME 410, ME 442, ME 491, ME 4950, CHEM 225, CHEM 226, CHEM 227, BCHM 370, CHEM 437, IMSE 381, IMSE 440, IMSE 4425, IMSE 4675, ENGR 350, ENGR 399, ENGR 492 Check design/tech courses' prerequisites, corequisites, course credit and schedule in DegreeWorks, the Undergrad Catalog and Browse Classes.

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