

Sample Pathway to Bachelor of Science in Engineering: Robotic Engineering, 125 total credits (2025)

SEMESTER 1	SEMESTER 2	Notes
<ul style="list-style-type: none"> ● CHEM 134 + CHEM 134L (4) <i>Chemistry I</i> (MATH 105* or higher, H.S. chemistry) ● ENGR 100 + ENGR 100L (3) <i>Intro to Engr</i> (MATH 105* or higher) ● MATH 115 (4) <i>Calculus I</i> (MATH 105 'C-' or placement by exam) DDC GECT ● DDC course (3) GEHA 	<ul style="list-style-type: none"> ● ECE 273 + ECE 273R + ECE 273L (4) <i>Digital Systems</i> (Math 115*) ● MATH 116 (4) <i>Calculus II</i> (MATH 115 'C-') ● PHYS 150 + PHYS 150L (4) <i>Physics I</i> (Math 115*: recommended as prereq) DDC GENS ● COMP 105 (3) <i>Composition I</i> (COMP 099 or placement by exam) DDC GEWO 	<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 ● 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. ● Please see your advisor.
SEMESTER 3	SEMESTER 4	RE Tech Electives
<ul style="list-style-type: none"> ● MATH 215 (4) <i>Calculus III</i> (MATH 116 'C-') ● PHYS 151 + PHYS 151L (4) <i>Physics II</i> (PHYS 150, MATH 116*; fulfills GENS) ● ECE 270 + ECE 270R (4) <i>Computer Methods</i> (ENGR 100, Math 115*) ● IMSE 317 (3) <i>Engr. Prob & Stats</i> (Math 116 'C-') ● COMP 270 (3) <i>Technical Writing</i> (COMP 105 or placement by exam, 35 completed credits) DDC GEWO 	<ul style="list-style-type: none"> ● ECE 210 + ECE 210R + ECE 210L (4) <i>Circuits</i> (MATH 116 'C-', PHYS 151*) ● MATH 228 (4) <i>Diff Equ w/ Linear Algebra</i> (Math 116 'C-') ● ECE 276 (4) <i>Discrete Math</i> (Math 116 'C-') ● ECE 3731 (4) <i>Microprocessors & Embedded Systems</i> (ECE 273, ECE 270) DDC GECT 	<p>TECHNICAL ELECTIVES (11) PROFESSIONAL ELECTIVES</p> <p>Choose 6 to 8 credits from the following:</p> <p>CIS/ECE 479, ECE 434., ECE 471, ECE 473, ECE 480, ECE 4881, ECE 4951, ECE 491, IMSE 489, ME 3601, ME 472, ENGR 492, ENGR 493</p>

* denotes a corequisite course

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

SEMESTER 5	SEMESTER 6	
<ul style="list-style-type: none"> ● ECE 3171 (4) <i>Analog & Discrete Signals & Systems</i> (MATH 228, ECE 311*) ● ECE 370 (4) <i>Advance SW Techniques in CE</i> (ECE 270, ECE 273*) ● ECE 311 + ECE 311L (4) <i>Electronic Circuits</i> (ECE 210, CHEM 134, COMP 270*) ● ECE 3641 (4) <i>Robotic Manipulation</i> (ECE 3731) 	<ul style="list-style-type: none"> ● ECE 347 (4) <i>Applied Dynamics</i> (MATH 228) ● IMSE 381 (4) <i>Industrial Robots</i> (MATH 115 'C-', Junior or Senior standing) ● ECE 4641 (4) <i>Mobile Robots</i> (ECE 3731, IMSE 317) ● ECE 237 (4) <i>Energy Systems in Electric, Autonomous, and Robotic Vehicles</i> (MATH 228) 	<p style="text-align: center;">APPROVED ELECTIVES</p> <p>Choose remaining credit from the following</p> <p>ECE 319, ECE 375, ECE 385, ECE 414, ECE 415 ECE 428, ECE 433, ECE 434, ECE 435, ECE 4361, ECE 438, ECE 4432, ECE 450, ECE 475, ENGR 350, ENGR 399, ENGR 492, ENGR 493, IMSE 3005, IMSE 421, IMSE 4545, ME 230, ME 260 OR ME 265</p> <ul style="list-style-type: none"> ● Check the RE elective courses' prerequisites, corequisites, course credit and schedule in DegreeWorks, the Undergrad Catalog and Browse Classes.
SEMESTER 7	SEMESTER 8	
<ul style="list-style-type: none"> ● ECE 460 (4) <i>Automatic Control Systems</i> (ECE 3171) OR ME 442 (4) <i>Cont. Sys. Ana & Des (ECE 305 & ME 345)</i> ● ECE 4987 (2) <i>Robotic ENGR Capstone Design I</i> (ECE 311, ECE 3171, ECE 3731, ECE 3641, ECE 460 or 4641) fulfills DDC GECE ● Professional Elective (4) ENEP ● ECON 201 or 202 (3) <i>Macroeconomics or Microeconomics</i> (MATH 105) DDC GESB ● DDC course (3) GESB 	<ul style="list-style-type: none"> ● ENT 400 (3) <i>Entrepreneurial Thinking & Beh.</i> (Junior standing) DDC GEIN or ENGR 400 (3) Appl Business Tech for Engr (Senior Standing) DDC GEIN ● Approved Elective (3) ● ECE 4988 (2) <i>Robotic ENGR Capstone Design II</i> (ECE 4987) DDC GECE ● DDC course (3) GESB/GEIN ● DDC course (3) GEHA 	

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