

Mechatronics Engineering B.S. 4-Year Pathway 2024-2025

| Fall Freshman Courses (15) | Course or GE Title | Units | GE/Major |
|------------------------------------------------------------------------------------|-----------------------------------|------------|-------------|
| MATH 150 (prereq MATH 130 or placement) | Calculus I | 4 | B4 |
| CHEM 110 + 110L (pre or coreq MATH 130 or 150) | Chemistry I & Chemistry I Lab | 4+1 | B1,B3 |
| FYS 110 | Introduction to Engineering | 3 | FYS,E |
| GE A1 | Fund of Speaking & Listening | 3 | A1 |
| Spring Freshman Courses (15) | Course or GE Title | Units | GE/Major |
| MATH 151 (prereq MATH 150) | Calculus II | 4 | Major |
| PHYS 205 (Prereq MATH 150) | Physics for Engineering I | 4 | Major |
| CST 231 | Problem Solving/Programming | 4 | Major |
| GE A2 | Critical Reading and Writing | 3 | A2 |
| Fall Sophomore courses (17) | Course or GE Title | Units | GE/major |
| MATH 265 (Prereq MATH 151) | Differential Eqs & Linear Algebra | 4 | Major |
| PHYS 210 (prereq = PHYS 205) | Physics for Engineering II | 4 | Major |
| ENGR 130 (prereq MATH 151 & PHYS 205) | Statics | 3 | Major |
| ENGR 150 (prereq MATH 150 & FYS/ENGR 110) | Engineering Graphics | 2 | Major |
| CST 238 (prereq CST 231) | Introduction to Data Structures | 4 | Major |
| Spring Sophomore Courses (15) | Course or GE Title | Units | GE/Major |
| MATH 250 Prereq MATH 151) | Multivariate Calculus | 4 | Major |
| ENGR 140 + ENGR 140L (prereq MATH 151 & PHYS 205 & CHEM 110 & 110L) | Materials Science & Engineering | 3+1 | Major |
| ENGR 260 + 260L (prereq MATH 151 & PHYS 210) | Circuit Analysis | 3+1 | Major |
| ENGR 240 (prereq ENGR 130) | Strength of Materials | 3 | Major |
| Fall Junior Courses (15) | Course or GE Title | Units | GE/Major |
| ENGR 330 (prereq = ENGR 130) | Dynamics | 3 | Major |
| ENGR 340 (prereq = ENGR 260&260L) | Signals | 3 | Major |
| ENGR 370 (prereq = ENGR 260&260L) | Digital Logic Design | 3 | Major |
| GE C1 | Lower-division Arts GE course | 3 | C1 |
| GE B2 | Lower-division GE course | 3 | B2 |
| Spring Junior Courses (15) | Course or GE Title | Units | GE/Major |
| ENGR 301 (GE areas A1, A2, A3, B4) | Technical Writing in Engineering | 3 | GWAR |
| ENGR 310 (prereq ENGR 260/L & ENGR 370) | Mechatronics | 3 | Major |
| ENGR 320 (prereq ENGR 240 Strength of Materials) | Machine Design | 3 | UDB |
| ENGR 375 (prereq (ENGR 330 and 260/L or ENGR 340) and MATH 265 and CST 231) | Feedback Control Systems | 3 | Major |
| US & CA government (US2,3) | CSUMB DCSL | 3 | DCSL, US2,3 |
| Fall Senior Courses (15) | Course or GE Title | Units | GE/Major |
| ENGR 380 (prereq ENGR 370) | Embedded Systems | 3 | Major |
| ENGR 480 (prereq ENGR 310 & pre/coreq ENGR 320) | Mechatronics Design I | 3 | Major |
| ENGR 350 or 360 or 397 | Engineering Elective | 3 | Major |
| HCOM 265 or SBS 111 or CST 274 | US History w/ Social Science | 3 | DGSS/US1 |
| Any SL & UDD (CST 462S) | UD Social Science GE, UD SL | 3 | UDD/SL |
| Spring Senior Courses (16) | Course or GE Title | Units | GE/Major |
| ENGR 481 (prereq ENGR 480) | Mechatronics Design II | 3 | |
| ENGR 394 (prereq ENGR 301 and 310) | Engineering Internship | 1 | |
| UD C with World Culture & languages | UD C GE | 3 | UDC (lang) |
| GE F | Ethnic Studies course | 3 | F |
| GE area C1 or C2 | GE area C1 or C2 for | 3 | C1 or C2 |
| Language other than English (GE C2) | Language & Culture, GE area C2 | 3 | C2, Lang |
| Total Mechatronics 4-yr p | | 123 | |