

Robotics Engineering
Catalog Year 2025-2026

Note: This is a recommended sequence and shifts are likely to occur due to prerequisite completion and course availability.

Semester One	Semester Two
CHEM 1127Q: General Chemistry I (4 credits) (TOI 6)	PHYS 1501Q: Physics for Engineers I (4 credits)(TOI 6)
MATH 1131Q: Calculus I (4 credits)	MATH 1132Q: Calculus II (4 credits)
CSE 1010: Intro to Computing for Engineers (3 credits)	ENGR 1166: Foundations of Engineering (3 credits)
ENGR 1000: Orientation to Engineering (1 credit)	ECE 1401: Programming for Elec. Engineers (3 credits)
ENGR 1195: AI4All (2 credits)	ENGL 1007: Writing and Composition (4 credits)
14 credits	18 credits

Semester Three	Semester Four
ECE 2001: Electrical Circuits (4 credits)	ECE 3101: Signals & Systems (3 credits)
MATH 2110Q: Multivariable Calculus (4 credits)	MATH 2210Q: Applied Linear Algebra (3 credits)
MATH 2410: Elem. Differential Equations (3 credits)	ECE 3411: Microprocessor Applications (3 credits)
PHYS 1502Q: Physics for Engineers I (4 credits) (TOI 6)	ECE/ME 3161: Intro to Robotics (3 credits)
CSE 2050: Data Structures and O. O. Design (3 credits)	CSE 2500: Intro to Dis. Systems or MATH 2710: Trans. To Adv. Math (3 credits)
18 credits	15 credits

Semester Five	Semester Six
ECE 3111 Systems Analysis (4 credits) or ME 3253/3254: Linear Systems Theory (3 credits)	ECE/ME 3163: Robot Control & Dynamics (3 credits)
ECE/ME 3162: Robot Motion Planning (3 credits)	CSE 4820: Intro to Machine Learning (3 credits)
CSE 3500: Algorithms (3 credits)	Track Elective (3 credits) ECE 3201 recommended
STAT 3345Q: Prob. Models for Engineers (3 credits) or MATH 3160: Probability (3 credits)	TOI Course (3 credits)
TOI Course (3 credits)	TOI Course (3 credits)
15 or 16 credits	15 credits

Semester Seven	Semester Eight
Robotics Senior Design I Course**	Robotics Senior Design II Course **
ECE 4161: Robotics Systems Laboratory (3 credits)	Track Elective (3 credits)
Track Elective (3 credits)	Robotics Elective (3 credits)
TOI Course (3 credits)	Robotics Elective (3 credits)
TOI Course (3 credits)	Free Elective* (3+ credits)
15 credits	15+ credits

*As needed to reach total degree credits

** **Senior Design sequence options based on selected track:** ECE 4901/4902/4900W, ME 4972/4973W or ME 4974W/4975/4976 or CSE 4939W/4940. Refer to UG Catalog for course pre-requisites.

Total Credits: 126