

2025 — 2026

BS Robotics and Autonomous Systems

Prerequisite Guide

Term 1

Course	Prerequisites	PR in Major Map	General Studies
ASU 101 - MSN The ASU Experience →	-	→ -	→ -
RAS 101 Foundations of Robotic Engineering I →	-	→ -	→ -
CSE 101 Intro to Computer Science and Programming for Non-Computer Science →	-	→ -	→ QTRS
ENG 101 First Year Composition →	-	→ -	→ ENG
MAT 265 Calculus for Engineers I →	MAT 170 (MPT Score of 61) →	→ -	→ MATH
Global Communities, Societies and Individuals →	-	→ -	→ GC SI

Term 2

Course	Prerequisites	PR in Major Map	General Studies
RAS 102 Foundations of Robotic Engineering II →	RAS 101 →	Yes (Term 1) →	→ -
ENG 102 First-Year Composition →	ENG 101 →	Yes (Term 1) →	→ ENG
MATH 266 Calculus for Engineers II →	MAT 265 →	Yes (Term 1) →	→ MATH
PHY 121 University Physics I: Mechanics →	MAT 265 MAT 266 (CoReq) →	Yes (Term 1) Yes (Term 2) →	→ SCIT or SQ
PHY 122 University Physics Laboratory I →	PHY 121 (CoReq) →	Yes (Term 2) →	→ SCIT or SQ
RAS 205 Design and Analysis of Data Structures and Algorithms →	CSE 101 →	Yes (Term 1) →	→ -

Term 3

Course	Prerequisites	PR in Major Map	General Studies
EGR 216 Engineering Electrical Fundamentals	MAT 265	Yes (Term 1)	-
MAT 267 Calculus for Engineers III	MAT 266	Yes (Term 2)	MATH
RAS 210 Computer-Aided Design and Manufacturing	RAS 102	Yes (Term 2)	-
RAS 215 Statics and Mechanics of Materials	MAT 265	Yes (Term 1)	-
Sustainability	-	-	SUST

Term 4

Course	Prerequisites	PR in Major Map	General Studies
MAT 275 Modern Differential Equations	MAT 266	Yes (Term 2)	MATH
MAT 343 Applied Linear Algebra	MAT 266	Yes (Term 2)	-
RAS 220 Dynamics	RAS 215	Yes (Term 3)	-
RAS 230 Intro to Robotic Mechanism Design and Development	RAS 210 RAS 215	Yes (Term 3) Yes (Term 3)	-
Social and Behavioral Sciences	-	-	SOBE

Term 5

Course	Prerequisites	PR in Major Map	General Studies
RAS 304 Embedded Systems Design Project I	EGR 216 CSE 101	Yes (Term 3) Yes (Term 1)	-
RAS 455 Robotic Systems I	CSE 101 RAS 220	Yes (Term 1) Yes (Term 4)	-
EGR 280 Engineering Statistics	MAT 265	Yes (Term 1)	QTRS or CS
Upper Division Technical Elective	-	-	-
Scientific Thinking in Natural Sciences	-	-	SCIT

Term 6

Course	Prerequisites	PR in Major Map	General Studies
RAS 314 Embedded Systems Design Project II	RAS 304	Yes (Term 5)	-
RAS 456 Robotic Systems II	RAS 455	Yes (Term 5)	-
PHY 321 Vector Mechanics and Vibration	-	-	-
RAS 433 Transforms and Systems Modeling	EGR 216 RAS 455 MAT 275 MAT 343 (Pre/CoReq)	Yes (Term 3) Yes (Term 5) Yes (Term 4) Yes (Term 4)	-
Upper Division Technical Elective	-	-	-

Term 7

Course	Prerequisites	PR in Major Map	General Studies
RAS 401 Professional Design Project I	RAS 314 ENG 101	Yes (Term 6) Yes (Term 1)	-
HST 318 History of Engineering	ENG 101 ENG 105 ENG 108	Yes (Term 1) Yes (Term 2)	HUAD or (L or SB) and G
RAS 446 Robotic and Manufacturing System Control and Optimization	RAS 433	Yes (Term 6)	-
RAS 475 Applied Machine Learning and AI for Robotics and Manufacturing	EGR 280 RAS 205	Yes (Term 5) Yes (Term 2)	-
Humanities, Arts and Design	-	-	HUAD

Term 8

Course	Prerequisites	PR in Major Map	General Studies
RAS 402 Professional Design Project II	RAS 401	Yes (Term 7)	-
Upper Division Technical Elective	-	-	-
American Institutions	-	-	AMIT
Governance and Civic Engagement	-	-	CIVI

Questions? Reach out to advising msnadvising@asu.edu