

Alexandria Technical and Community College
General Engineering AS to
Arizona State University
[2024-2025 Mechanical Engineering, BSE](#)

Created: February 2025

ATCC	Semester Hours	Arizona State University Requirements	Semester Hours
CHEM 1500 General Chemistry I	4	CHM 113 General Chemistry I (SCIT) (not applicable to the Mechanical Engineering, BSE)	4
CSCI 1525 C++ for Scientists and Engineers	4	CSE 100 Principles of Programming with C++ (QTRS) (not applicable to the Mechanical Engineering, BSE) AND CSE department elective (not applicable to the Mechanical Engineering, BSE)	3 +1
ENGL 1410 Composition I	3	ENG 101 First-Year Composition	3
ENGR 1220 Introduction to Engineering	3	FSE 100 Introduction to Engineering AND FSE department elective (not applicable to the Mechanical Engineering, BSE)	2 +1
ENGR 2101 Statics	3	MAE 201 Mechanics of Particles and Rigid Bodies I: Statics	3
ENGR 2102 Dynamics	3	MAE 202 Mechanics of Particles and Rigid Bodies II: Dynamics	3
ENGR 2103 Mechanics of Deformable Bodies	3	CEE 213 Introduction to Deformable Solids (not applicable to the Mechanical Engineering, BSE)	3
ENGR 2105 Thermodynamics	3	MAE 241 Introduction to Thermodynamics	3
MATH 1425 Precalculus	4	MAT 170 Precalculus (MATH) (not applicable to the Mechanical Engineering, BSE) AND MAT department elective (not applicable to the Mechanical Engineering, BSE)	3 +1
MATH 1426 Calculus I	4	MAT 270 Calculus with Analytic Geometry I (MATH) (fulfills MAT 265 Calculus for Engineers I requirement)	4*
MATH 2200 Differential Equations and Linear Algebra	4	MAT 275 Modern Differential Equations (MATH) AND MAT department elective (not applicable to the Mechanical Engineering, BSE)	3 +1
MATH 2232 Calculus II	4	MAT 271 Calculus with Analytic Geometry II (MATH) (fulfills MAT 266 Calculus for Engineers II requirement)	4*
MATH 2240 Calculus III	4	MAT 272 Calculus with Analytic Geometry III (MATH) (fulfills MAT 267 Calculus for Engineers III requirement)	4*
NAV 101 Naval Ethics and Leadership (separate USNCC transcript required upon transfer)	3	PHI 105 Intro to Ethics (HUAD) (fulfills Humanities Arts and Design requirement)	3
NAV 102 Modern Naval History (separate USNCC transcript required upon transfer)	3	HST department elective (HUAD) (not applicable to the Mechanical Engineering, BSE if HUAD fulfilled by PHI 105 equivalency)	3
NAV 103 Naval Force Design (separate USNCC transcript required upon transfer)	3	POS department elective (CIVI) (fulfills Governance and Civic Engagement requirement)	3
NAV 104 Civilian/Military Relations, Org, & American Gov (separate USNCC transcript required upon transfer)	3	POS 110 American Government and Politics (AMIT) (fulfills American Institutions requirement)	3
NAV 105 Intro to the Geopolitical Environment (separate USNCC transcript required upon transfer)	3	POS 160 Global Politics (GCSI) (fulfills Global Communities, Societies and Individuals requirement)	3
PHYS 1081 Engineering Physics I	4	PHY 121 University Physics I: Mechanics (SCIT) AND PHY 122 University Physics Laboratory I (SCIT)	3 +1
PHYS 1082 Engineering Physics II	4	PHY 131 University Physics II: Electricity and Magnetism (SCIT) AND PHY 121 University Physics Laboratory II (SCIT)	3 +1
TOTAL CREDITS REQUIRED	69	TOTAL CREDITS	69
		TOTAL CREDITS APPLICABLE TOWARD MECHANICAL ENGINEERING BSE	46

*only 3 credits applicable to requirement

Credits Remaining at ASU	Semester
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	Hours
CHM 114 General Chemistry for Engineers OR CHM 116 General Chemistry II**	4
EEE 202 Circuits I	4
ENG 102 First-Year Composition**	3
MAE 213 Mechanics of Materials	3
MAE 214 Computer-Aided Engineering I	1
MAE 215 Introduction to Programming in MATLAB	1
MAE 242 Introduction to Fluid Mechanics	3
MAE 301 Applied Experimental Statistics	3
MAE 318 System Dynamics and Control I	4
MAE 384 Advanced Mathematical Method for Engineers	3
MAE 417 System Dynamics and Control II	3
MAT 242 Elementary Linear Algebra	2
MEE 322 Structural Mechanics	3
MEE 323 Computer-Aided Engineering II	2
MEE 340 Heat Transfer	3
MEE 342 Principles of Mechanical Design	3
MEE 488 Mechanical Engineering Design I	3
MEE 489 Mechanical Engineering Design II	3
MEE 491 Experimental Mechanical Engineering	2
MSE 250 Structure and Properties of Materials	3
Sustainability (SUST)	3
Upper Division HUAD Track Course	3
Upper-Division SOBE Track Course	3
Upper Division Technical Elective	3
Upper Division Technical Elective	3
Upper Division Technical Elective	3
TOTAL CREDITS	74

**ATCC has equivalency, but it is not required as part of the General Engineering AS degree

EVALUATION SUMMARY	Semester Hours
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ATCC Credits Applicable to Mechanical Engineering, BSE	46
ASU Credits Applicable to Mechanical Engineering, BSE	74
TOTAL CREDITS REQUIRED	120