Alexandria Technical and Community College
General Engineering AS to
Arizona State University
2024 - 2025 Industrial 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)	4
CSCI 1525 C++ for Scientists and Engineers	4	CSE 100 Principles of Programming with C++ (QTRS) (not applicable to the Industrial Engineering, BSE) AND CSE department elective (not applicable to the Industrial 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 (applicable toward 120 hours)	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 (not applicable to the Industrial Engineering, BSE)	3
ENGR 2103 Mechanics of Deformable Bodies	3	CEE 213 Introduction to Deformable Solids (not applicable to the Industrial 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 Industrial Engineering, BSE) AND MAT department elective (not applicable to the Industrial 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 Industrial 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 first Humanities Arts and Design requirement)	3
NAV 102 Modern Naval History (separate USNCC transcript required upon transfer)	3	HST department elective (HUAD) (fulfills first Humanities Arts and Design requirement)	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 INDUSTRIAL ENGINEERING BSE	51

*only 3 credits applicable to requirement

Credits Remaining at ASU	Semester

	Hours
CSE 110 Principles of Programming**	3
CSE 205 Object-Oriented Programming and Data Structures	3
ECN 211 Macroeconomic Principles** OR ECN 212 Microeconomic Principles**	3
IEE 210 Introduction to Industrial Engineering	3
IEE 300 Economic Analysis for Engineers	3
IEE 305 Information Systems Engineering	3
IEE 321 Professional Engineering Practice	1
IEE 369 Work Analysis Design	3
IEE 376 Operations Research Deterministic Techniques/Applications	4
IEE 380 Probability and Statistics for Engineering Problem Solving	3
IEE 385 Engineering Statistics: Probability	3
IEE 461 Production Control	3
IEE 470 Stochastic Operations Research	3
IEE 474 Quality Control	3
IEE 475 Simulating Stochastic Systems	4
IEE 485 Systems Design Capstone I	3
IEE 486 Systems Design Capstone II	3
IEE 400-level Elective	3
IEE 400-level Elective	3
IEE 400-level Elective	3
MAT 342 Linear Algebra OR MAT 343 Applied Linear Algebra	3
Sustainability (SUST)	3
Upper Division Industrial Engineering Major Elective	3
TOTAL CREDITS	69

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

EVALUATION SUMMARY	Semester Hours

ATCC Credits Applicable to Industrial Engineering, BSE	51
ASU Credits Applicable to Industrial Engineering, BSE	69
TOTAL CREDITS REQUIRED	**120**