

Science

Associate of Science Engineering and Physical Science

Student Learning Outcomes

This program provides students with a solid base of mathematics, physics, chemistry, and computer science required of students in the first two years of baccalaureate degrees in engineering and physical science (chemistry, physics, etc.) programs. Completion of this Associate degree assures completion of lower-division general education requirements of NSHE colleges and universities, though not all lower division engineering and physical sciences courses required by specific programs that a student may be transferring to are provided. This class guide provides a solid pattern of study for lower-division engineering and physical science students transferring to any college or university. It is important to work with an advisor, and to know in advance where the student intends to transfer. This recommended program outline assumes the student is ready to begin a rigorous program that calculus being taken in the first semester. For students needing additional preparation before taking calculus, physics, chemistry, or computer science recommended preparatory electives (listed below) fulfill Associate degree requirements.

DEGREE REQUIREMENTS	CREDITS
Orientation: INT 100	0.5

GENERAL EDUCATION - See page XXX

Communications and Expression

Written Communications: ENG 100 or 101.....	3
Oral Communications.....	3
Evidence-Based Communications: ENG 102.....	3
Fine Arts	3

Logical and Scientific Reasoning

Mathematical Reasoning: MATH 181 (required)....	4
Scientific Reasoning: CHEM 122 (required).....	4
Scientific Data Interpretation and Generation:	4
CHEM 121 (required)	

Human Societies and Experience

Structure of Societies:	3
ECON 102 (recommended)	
American Constitutions and Institutions:	3
PSC 101 (required)	
Humanities.....	3

Technological Proficiency

CS 135 (required)	3
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ASSOCIATE OF SCIENCE FOUNDATIONS

Mathematics: MATH 182 (required)	4
Science: PHYS 180	4

PROGRAM REQUIREMENTS CREDITS

MATH 283	4
PHYS 181	4
PROGRAM ELECTIVES	8

Only courses listed below may be used for remaining credits in this pattern of study.

Preparatory Electives (for students requiring additional preparation in math, physics, chemistry or computer science) CHEM 100, CIT 129, MATH 127 or MATH 128, PHYS 100

General Electives: AST 101, CHEM 241/L, CHEM 242/L, ENV 100, GEOL 101, GIS 109, MATH 251, MATH 285 (this math course, Differential Equations, is very highly recommended), MATH 330, PHYS 182

SUGGESTED COURSE SEQUENCE AS—Engineering and Physical Science

FALL—1st Semester	Credits
INT 100	0.5
CHEM 121	4
ENG 100 or 101	3
FINE ARTS*	3
MATH 181	4
TOTAL	14.5

SPRING—2nd Semester	Credits
CHEM 122	4
CS 135	3
ENG 102	3
MATH 182	4
TOTAL	14

FALL—3rd Semester	Credits
MATH 283	4
ORAL COMMUNICATIONS*	3
PHYS 180	4
PROGRAM ELECTIVE**	4
TOTAL	15

SPRING—4th Semester	Credits
PHYS 181	4
PSC 101	3
HUMANITIES*	3
PROGRAM ELECTIVE**	4
STRUCTURE OF SOCIETIES*	3
TOTAL	16

Minimum Credits: 60.5

*Select from General Education Grid, page 78.

**Select with advisor.