

Science

Associate of Science Engineering and Physical Science (Pattern of Study)

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 with calculus being taken in the first semester. Students needing additional preparation before taking calculus, physics, chemistry, or computer science should consider taking the recommended preparatory electives (listed below) which fulfill associate degree requirements.

Upon completion of the program students will earn an AS degree and will have the ability to:

- Transfer to a four-year level engineering or physical sciences (chemistry, physics) degree program.
- Work at the level of a junior engineer in either the electrical, mechanical, or chemical fields.

Degree Requirements Credits

General Education

Communications and Expressions

Written Communications 3
ENG 100 or 101

Oral Communications 3
COM 101, THTR 102, THTR 221

Evidence-Based Communications 3
ENG 102

Fine Arts.....3
ART 100, ART 101, ART 107, ENG 205, MUS 101,
THTR 100, THTR 105, THTR 204

Logical and Scientific Reasoning

Mathematical Reasoning—MATH 181 (required) 4

Scientific Reasoning—CHEM 122 (required) 4

Scientific Data Interpretation—CHEM 121 (required).....4

Human Societies and Experience

Structure of Societies: 3
ANTH 101, ANTH 201, ANTH 202, CRJ 104,
ECON 102 (recommended), ECON 103, GEOG 106,
HMS 200, PSY 101, PSY 208, SOC 101

American Constitutions and
Institutions—PSC 101 (required)..... 3
Humanities.....3
ART 160, ART 260, ART 261, ENG 203, ENG 223,
FIS 100, FREN 111, FREN 112, HIST 105, HIST 106,
HIST 208, HIST 209, HUM 101, HUM 111, MUS 121,
MUS 125, PHIL 102, PHIL 129, SPAN 111, SPAN 112,
SPAN 211
Technological Proficiency—CS 135 (required) 3

FOUNDATIONS

Mathematics—MATH 182 (required) 4
(Minimum 5 total credits Mathematics)

Science—PHYS 180 (required)..... 4
(Minimum 12 total credits Science)

Program Requirements

MATH 283 Calculus III 4
PHYS 181 Physics for Scientists and Engineers II..... 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

Note: All students graduating from Nevada institutions of higher education must satisfy the American Constitutions and Institutions requirement. PSC 101 (3 credits) or HIST 101 and HIST 102 (6 credits).

SUGGESTED COURSE SEQUENCE
(Refer to page 87)
AS—Engineering and
Physical Science

FALL—1st Semester	Credits
CHEM 121	4
ENG 100 or 101	3
FINE ARTS*	3
MATH 181	4
TOTAL	14

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	17

Minimum Credits: 60

***Select from page 81**

****Choose with an advisor**

Significant portions of this degree are available online. See an advisor for details.