ENGINEERING (AS)

Associate of Science

Transfer Program
Interest Areas:
Science, Tech., Engr. and Math

A full range of engineering and related courses are offered to satisfy freshman and sophomore requirements for students planning to transfer to institutions offering baccalaureate degrees in engineering or engineering technology. A solid foundation is laid for further studies in civil, mechanical, chemical, and electrical engineering. This program provides the flexibility needed by students interested in emerging fields like computer science, robotics, bioengineering, geological engineering, environmental engineering, and many others. The advantages of small class size, individual attention, a knowledgeable professional staff, and state-of-the-art instructional equipment incorporating modern CAD (computer aided design) are well suited to meeting the lower division requirements for degrees in engineering. A solid math and science background is important preparation for a college engineering program. Completion of the following courses normally fulfills half of bachelor's degree requirements in Engineering. Course selections should be tailored to match requirements of the intended transfer institution.

Contact Information:
Math, Computer Science and Engineering Division
Seiter Hall, Room 214
Phone: (208) 665-4521
Program Website (https://www.nic.edu/engineering/)

Program Requirements

Code	Title	Credits
General Education Requirements		
GEM 1 - Written Communication		6
GEM 2 - Oral Communication		3
GEM 3 - Mathematical Ways of Knowing [1]		0
GEM 4 - Scientific Ways of Knowing [1]		0
GEM 5 - Humanistic and Artistic Ways of Knowing [2]		3
GEM 6 - Social and Behavioral Ways of Knowing [2]		3
GEM 7W - Wellness		1-3
GEM 7F - First Year Experience [1]		0
Program Requirements		
CHEM-111	General Chemistry I	5
ENGR-119	Engineering and Computer Science First Year Experience Seminar	3
ENGR-130	Engineering and Computer Science First Year Experience Symposium	1
ENGR-210	Statics	3
MATH-170	Calculus I	4
MATH-175	Analytic Geometry and Calculus II	4
MATH-370	Introduction to Ordinary Differential Equations	3
PHIL-103	Introduction to Ethics	3
PHYS-211	Engineering Physics I	5
ECON-201	Principles of Macroeconomics	3
or ECON-202	Principles of Microeconomics	
Program Electives		
Select a minimum of 14 credits from the following: [3]		14
CHEM-112	Principles of General College Chemistry II	
CHEM-277	Organic Chemistry I	
CHEM-278	Organic Chemistry I Lab	
CHEM-287	Organic Chemistry II	
CHEM-288	Organic Chemistry II Lab	
CS-150	Computer Science I	
CS-240	Digital Logic	
ENGL-202	Technical Writing	
ENGR-105	Engineering Graphics	
ENGR-220	Dynamics of Rigid Bodies	
ENGR-223	Engineering Analysis	
ENGR-240	Circuits I	
ENGR-241	Circuits II	
ENGR-295	Strength of Materials	
MATH-275	Analytic Geometry and Calculus III	
MATH-335	Linear Algebra	
PHYS-212	Engineering Physics II	
Total Credits		**64-66**

[1] This General Education Requirement is met by the Program Requirements.
[2] This General Education Requirement is partially met by the Program Requirements.
[3] Choose courses based on major chosen at your transfer institution.

Course Key

GEM | AAS Institutionally Designated | Gateway | Milestone

Program Outcomes

Students completing coursework in Engineering at North Idaho College will be given the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.

Upon completion of the program, students will be able to:

1. Recognize the impact of engineering solutions in a global, economic, environmental, and societal context.
2. Apply knowledge of mathematics, science, and engineering to identify, formulate, and solve basic engineering problems.

3. Function on multidisciplinary teams, communicate effectively, and use the techniques, skills, and modern engineering tools necessary for engineering practice.
4. Develop an understanding of professional and ethical responsibilities for engineers, a knowledge of contemporary issues, and a recognition of the need for, and ability to engage in life-long learning.

In addition to the program outcomes, students will meet the North Idaho College General Education (GEM) Requirements.