

HIGH SCHOOL DUAL CREDIT

GATEWAY TO ENGINEERING

The Gateway to Engineering Certificate Program offers high school students in dual credit courses a chance to explore career-focused classes while earning college credits. This program, offered through South Dakota Mines and South Dakota State University, provides students with a foundation in engineering-related general education courses and an introduction to the engineering profession. **View the certificate course plan and potential degree paths below!**

CERTIFICATE COURSEWORK PLAN

If you are considering a career in engineering, the courses in the certificate plan below will help you explore that path. *Completing these courses not only qualifies for an undergraduate certificate but contributes to degree progress within the featured business programs at South Dakota's public universities. Courses that comprise the certificate may count toward general education requirements, major requirements, or electives, depending on your chosen major and university.

SCIENCE

Take one of the following:

- CHEM 112/L** General Chemistry I w/Lab
PHYS 207/207L Fundamentals of Physics I w/Lab

ENGINEERING

Take one of the following:

- GE101** Intro to Engineering & Technical Professions
GES 130/130L Intro to Engineering and Science

MATH

Take one of the following:

- MATH 115** Precalculus
MATH 116 Engineering Precalculus w/Lab
MATH 121 Survey of Calculus
MATH 123 Calculus I

INDIVIDUAL STUDENT OUTCOMES

- Define a problem and apply appropriate techniques to obtain valid solutions.
- Analyze available facts, evidence, and observations and apply rational, unbiased analysis to form judgments.
- Systematically explore and investigate complex issues to develop well-supported conclusions.

*Students who do not complete the certificate coursework in high school can still earn the credential while attending a participating South Dakota public university.



POTENTIAL DEGREE PATHS SOUTH DAKOTA MINES

Biomedical Engineering
Chemical Engineering
Civil Engineering
Computer Engineering
Electrical Engineering
Geological Engineering
Industrial Engineering & Engineering Management
Mechanical Engineering
Metallurgical Engineering
Mining Engineering

SOUTH DAKOTA STATE UNIVERSITY

Agricultural and Biosystems Engineering
Civil Engineering
Computer Science
Concrete Industry Management
Construction Management
Electrical Engineering
Electronics Engineering Technology
Healthcare Systems Engineering
Mechanical Engineering
Operations Management

Note: Some courses may only be available during one semester; make sure to research this when creating your certificate plan.