

# **MAJORS FOR STUDENTS EXPLORING DEGREES IN ENGINEERING, TECHNOLOGY & MATH**

Are you interested in engineering, technology or math? Here is a list of available majors at SDBOR institutions.

## **BLACK HILLS STATE UNIVERSITY**

- Engineering Technology
- Exercise Science
- Mathematics
- Mathematics & Science Education

## **DAKOTA STATE UNIVERSITY**

- Biology for Information Systems
- Business Technology
- Computer Game Design
- Computer Science
- Cyber Operations
- Information Systems
- Mathematics for Information Systems
- Network and Security Administration

## **NORTHERN STATE UNIVERSITY**

- Mathematics
- Mathematics Education
- Pre-Engineering

## **SOUTH DAKOTA SCHOOL OF MINES & TECHNOLOGY**

- Applied and Computational Mathematics
- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Computer Science
- Electrical Engineering
- Geological Engineering
- Industrial Engineering and Engineering Management
- Science, Technology, and Society
- Mechanical Engineering
- Metallurgical Engineering
- Mining Engineering
- Physics

## **SOUTH DAKOTA STATE UNIVERSITY**

- Agricultural and Biosystems Engineering
- Agricultural Systems Technology
- Aviation
- Biotechnology
- Civil Engineering
- Computer Science
- Electrical Engineering
- Electronics Engineering Technology
- Mathematics
- Mechanical Engineering
- Operations Management
- Precision Agriculture

## **THE UNIVERSITY OF SOUTH DAKOTA**

- Biology
- Computer Science
- General Studies
- Biomedical Engineering (Integrated Science)
- Mathematics
- Medical Biology
- Medical Laboratory Science
- Physics
- Pre-Engineering
- Sustainability
- Operational Analytics

# COURSE RECOMMENDATIONS FOR STUDENTS EXPLORING DEGREES IN ENGINEERING, TECHNOLOGY & MATH

Reduce the time to graduation by only taking the courses necessary to complete a degree. Below are a few recommended courses for students exploring careers in engineering, technology, or math. These are to be viewed as suggestions; other course options compatible with this track are listed on page 3.

Consult university advisors at the university you plan to attend for appropriate placement based on test scores, high school preparation & potential major.



ENGL 101— Composition I



ENGL 201— Composition II



CMST 101—Fundamentals of Speech



PSYC 101—General Psychology



POLS 100—American Government

OR



SOC 100—Introduction to Sociology



ENGL 210—Introduction to Literature



MUS 100—Music Appreciation

In most cases, it is best for high school students to exhaust the math curriculum at their high school before moving on to dual credit math courses.



MATH 120—Trigonometry OR MATH 115—Precalculus OR MATH 281/STAT 281—Introduction to Statistics (or appropriate math course based on placement)



CHEM 106/L—Chemistry Survey & Lab OR  
CHEM 112/L—General Chemistry I & Lab



CHEM 107/L—Organic & Biochemistry Survey & Lab



CHEM 108/L—Chemistry Survey II & Lab OR  
CHEM 114/L—General Chemistry II & Lab  
(after completing CHEM 106)

Sciences courses should be completed in sequence. Often, students looking to major in science-based majors are better served by taking lab science courses face-to-face in an actual lab, so dual credit may not be the best option for some students.



Requirement for some majors.  
(See page 3)

Depending upon the field and school, the natural science requirements for degree programs may vary. It is recommended that students confirm what courses are needed to complete their desired degree.

These course recommendations fulfill the following general education requirements:



Written Communication



Oral

Communication



Social Sciences



Arts & Humanities



Mathematics



Natural Sciences



# COURSE OPTIONS FOR STUDENTS EXPLORING DEGREES IN ENGINEERING, TECHNOLOGY & MATH

Reduce the time to graduation by only taking the courses necessary to complete a degree. Below is a list of possible courses to fulfill general education requirements for students exploring careers in engineering, technology, or math. Consult university advisors at the university you plan to attend for appropriate placement based on test scores, high school preparation & potential major.



## Goal #1: Written Communication *(Students must take two courses, including ENGL 101)*

- ENGL 101—Composition I *(If attending SDSMT, only ENGL 101 is needed)*
- ENGL 201—Composition II
- ENGL 283—Introduction to Creative Writing



## Goal #2: Oral Communication

- CMST 101—Fundamentals of Speech *(Course not needed if attending SDSMT)*



## Goal #3 Social Sciences *(Pick 2 courses from two different disciplines.)*

- |   |                                     |
|---|-------------------------------------|
| • CJUS 201—Introduction to Criminal Justice | • POLS 100—American Government      |
| • ECON 201—Principles of Microeconomics     | • POLS 250—World Politics           |
| • ECON 202—Principles of Macroeconomics     | • PSYC 101—General Psychology       |
| • EPSY 210/HDFS 210—Lifespan Development    | • SOC 100—Introduction to Sociology |
| • HIST 151—United States History I          | • SOC 150—Social Problems           |
| • HIST 152—United States History II         |                                     |



## Goal #4: Arts & Humanities *(Pick 2 courses from two different disciplines)*

- |                                       |   |
|---------------------------------------|---|
| • ART 111—Drawing I                   | • HIST 121—Western Civilization I       |
| • ART 121—Design I 2D                 | • HIST 122—Western Civilization II      |
| • ARTH 100—Art Appreciation           | • MCOM 151—Intro to Mass Communications |
| • ARTH 211—History of World Art I     | • PHIL 220—Introduction to Ethics*      |
| • ARTH 212—History of World Art II    | • REL 250—World Religions               |
| • ENGL 210—Introduction to Literature | • GFA 101—Introduction to Fine Arts     |
| • HIST 111—World Civilization I       | • MUS 100—Music Appreciation            |
| • HIST 112—World Civilization II      | • THEA 100—Introduction to Theatre      |
|                                       | • THEA 201—Film Appreciation            |



## Goal #5: Mathematics

- |   |  |
|---|--|
| • MATH 114—College Algebra <i>(or appropriate math course based on placement)</i> | • MATH 123—Calculus I                          |
| • MATH 115—Precalculus  | • MATH 125—Calculus II                         |
| • MATH 120—Trigonometry   | • MATH 281/STAT 281—Introduction to Statistics |

In most cases, it is best for high school students to exhaust the math curriculum at their high school before moving on to Dual Credit math courses. By gaining basic skills in upper-level high school courses such as calculus/trigonometry, students will be better prepared



## Goal #6: Natural Sciences *(Students will need at least 6 credits)*

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|--|---|
| • BIOL 101/L—Biology Survey I & Lab              | • ESCI 103/L—Earth and Life Through Time & Lab  |
| • BIOL 103/L—Biology Survey II & Lab             | • PHYS 101/L—Survey of Physics & Lab            |
| • BIOL 151/L—General Biology I & Lab             | • PHYS 111/L—Introduction to Physics I & Lab    |
| • BIOL 153/L—General Biology II & Lab            | • PHYS 113/L—Introduction to Physics II & Lab   |
| • CHEM 106/L—Chemistry Survey & Lab              | • PHYS 211/L—University Physics I & Lab         |
| • CHEM 107/L—Organic & Biochemistry Survey & Lab | • PHYS 213/L—University Physics II & Lab        |
| • CHEM 112/L—General Chemistry I & Lab           | • PHYS 185/L—Introduction to Astronomy I & Lab  |
| • CHEM 114/L—General Chemistry II & Lab          | • PHYS 187/L—Introduction to Astronomy II & Lab |
| • ESCI 101/L—Dynamic Earth & Lab                 |   |

Consulting university advisors is critical for determining which science sequence will be best for your desired major. Sciences courses should be completed in sequence.

Often, students looking to major in science-based majors are better served by taking lab science courses face-to-face in an actual lab, so dual credit may not be the best option for some students.