Idaho Career Information System: Fostering STEM Career Awareness

Sara Scudder
CIS Administrator
Idaho Department of Labor
“The future of the economy is in STEM,” says James Brown, the executive director of the STEM Education Coalition in Washington, D.C. “That's where the jobs of tomorrow will be.”

“It is important that students become interested in STEM before they enter high school so they will enroll in courses that can prepare them for STEM majors or careers.”

“Many jobs that previously didn't require analytic thought or data handling now do, and arming yourself with these skills is one way to get a leg up in the labor market.”

What teens are saying

- The idea of STEM means that all parts of science come together to tell us about the world.

- Being familiar with STEM is necessary to be successful in a creative world.

- Knowing STEM helps individuals to better themselves and their world. STEM is a way of life, we use it every day.

- Knowledge of STEM is necessary to get into good schools, obtain scholarships, and get good careers.

Source: “YES Teens Sound Off on Why STEM Knowledge is Important.” St. Louise Science Center Eurekax Blog, 2014.
What is STEM?

What are STEM Skills?

Source: www.iseek.org/careers/stemcareers
STEM Jobs in the U.S.

More than 1 out of every 10 US jobs are STEM related.

Average wage for STEM occupations 1.7X National average wage for all occupations

STEM employment expected to grow +13% between 2012 & 2022

CIS

A proactive and participatory resource for engaging in life and career planning. Comparable and related information is linked in meaningful ways, encouraging students to consider a full range of options in setting goals and developing plans for life after high school.
My Portfolio

My Portfolio is an electronic career folder that allows students to save items and organize their career research, exploration and plans.
My Portfolio

View your CIS favorites and CIS assessment results.

Save information for résumés and applications.

Store your files and résumés.

View My CIS Portfolio

Where are the pages and results I've saved?
- Favorites
  - Sort and Assessment Results
  - Stored Files and Links

How do I track my career activities?
- Checklists

How do I plan my courses?
- Course Planner

How do I create or update my résumé?
- Résumé Creator
  - Saved and Uploaded Résumés

How do I create a career plan?
- Career Plan

How do I track my school applications?
- Application Tracker

What are my guidance needs?
- Universal Encouragement Program

What are my unique strengths?
- Dependable Strengths

What practice tests can I take?
- College Entrance/GED/ASVAB Tests
  - Advanced Academic Tests
  - Civil Service Tests
To make good career decisions students need to become aware of their personal style, identify their interest and skill areas and acknowledge their work values.
Assessments

Answer questions about yourself and connect to occupations that may interest you.

Learn more

What are my interests?
Career Cluster Inventory
IDEAS

What are my unique strengths?
Dependable Strengths

What skills and work values are important to me?
SKILLS
Work Importance Locator

What lifestyle can I afford?
Reality Check

How do I link assessment results taken outside CIS to occupations?
Assessment Link
Research & Evaluate Options

Students need to identify possible career options that match their criteria for job satisfaction and look for postsecondary education options that will help them reach their career goals.
Occupations

Explore different occupations and find out what people do at work.

Learn about industries and investigate career options in the military.

Find out if self-employment is a good fit for you.

Learn more

Which occupations match my preferences?
- Occupation Sort
- Occupation Filter
- Career Clusters Index

What can I learn about occupations?
- Choosing Occupations
- Occupations
- Green Jobs
- About STEM

What options are available in the military?
- About the Military
- Military Occupations

How do I compare occupations?
- Compare Occupations

What can I learn about working for myself?
- Entrepreneurial Career Assessment Form
- Self-Employment

What can I learn about industries?
- About Industries
- Industries
### About STEM

What do you picture yourself doing in the future? You may want to help sick people get better or save the planet. Maybe you want to make new discoveries, solve mysteries, help build the future or create tools to make many or all of these things happen. Whether you know it or not, you're interested in a STEM (science, technology, engineering and math) career.

You may be familiar with “core” STEM careers like those in life and physical science, engineering, mathematics, information technology and social science. But did you know STEM careers can also be found in architecture, health, sales, education and managerial occupations?

Find out more about STEM careers by exploring these STEM Occupations in CIS.

### STEM Core

- Actuaries
- Aerospace Engineers
- Agricultural Engineers
- Agricultural Scientists
- Animal Scientists
- Architects
- Astronomers
- Biologists
- Biomedical Engineers
- Cartographers and Photogrammetrists
- Chemical Engineers
- Conservation Scientists
- Database Administrators
- Drafters
- Electrical and Electronics Engineers
- Electronics Engineering Technologists
- Energy Engineers
- Engineering Technicians
- Environmental Engineering Technicians
- Environmental Engineers
- Environmental Scientists
- Materials Engineers
- Mathematicians
- Mechanical Engineers
- Medical Scientists
- Meteorologists
- Mining Engineers
- Natural Sciences Managers
- Nuclear Engineers
- Operations Research Analysts
- Petroleum Engineers
MECHANICAL ENGINEERS

Overview

Mechanical engineers design, build, and test mechanical tools and machines.

Mechanical engineers work on projects such as:
- Designing renewable energy systems
- Developing more efficient machines

Mechanical engineers draw their designs using drafting tools and computer-assisted design (CAD) software. They also study blueprints, schematics, and technical drawings. They work with clients and other designers to fine-tune designs.

Mechanical engineers build a prototype (or model) of a design so they can test to see if it works properly. They adjust the design and construction so that machines and tools function as intended.

They calculate the cost and get bids from different companies for materials and production. Some may assess the system's impact on the environment.

Engineers may oversee the construction and assembly of the machines and tools they design. This allows them to continue fine-tuning their designs in order to improve their function.

Mechanical engineers also develop a maintenance schedule for machines and tools. If there are problems, mechanical engineers evaluate and find solutions to the problem. They tell mechanics which repairs to make and test the fixed system.

Mechanical engineers may work in a company with many departments. They may be responsible for all mechanical tools and machines for each department. They provide technical advice and consultation to others. They also manage groups of people who may do the actual construction and installation of tools and machines.

At a glance

- Design mechanical products and systems
- Use CAD (computer-assisted design)
- May work overtime to meet deadlines
- Have at least a bachelor's degree
- Have a license
- Earn $79,450 per year (Idaho median)
Career Clusters

Employees need to keep on learning. Employment Training Specialists help.

Icon Key

- Real World Interviews ask a person who works in the occupation to explain what their job is like.
- Occupation videos let you see the environment a person works within and learn more about what they do in the workplace.
- Green jobs work toward a more environmentally friendly workplace and world. See the Green Jobs module for more information.
- STEM occupations are those in the fields of science, technology, engineering and mathematics.
SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS

Overview

Is science one of your favorite subjects?
Do you prepare projects for science fairs?
Do you enjoy reading science magazines?
Are you detail-oriented?
Do you want to know how things work?

If you answered yes to two or more of the questions above, you might be interested in considering a career in science, technology, engineering, or mathematics.

If you choose to work in the Science, Technology, Engineering, and Mathematics cluster, you have several avenues. One avenue is to do scientific research in laboratories or the field. Another option is to be involved in the planning and design of products and systems. The last avenue is to provide support to the scientists, mathematicians, and engineers so they can do their work.

The pathways listed in the next topic give you more information about the opportunities to work and study in science, technology, engineering, and mathematics.
Programs of Study

Education

What can I study?
- About Programs of Study
- Programs of Study
- Apprenticeship

Where can I study?
- How to Choose a School
- State Schools
- US Colleges and Universities

Which schools match my preferences?
- School Sort

How do I compare schools?
- Compare Schools

Where can I get help paying for school?
- Paying for School
- Financial Aid Sort
- Scholarships by Category
- State Scholarships
MECHANICAL ENGINEERS

Programs of Study

The programs of study listed below are the recommended areas of study to pursue if you wish to enter this occupation.

Education and Training directly related to this occupation

- Mechanical Engineering

Other Education and Training to consider

- Aerospace, Aeronautical, and Astronautical Engineering
- Artificial Intelligence and Robotics
- Electrical, Electronics, and Communications Engineering
- Engineering Mechanics
- Industrial and Systems Engineering
- Manufacturing Engineering
- Mechanical Engineering Technology
- Naval Architecture and Marine Engineering
- Nuclear Engineering
- Structural Engineering
MECHANICAL ENGINEERING

Overview

Mechanical engineering programs prepare people to design and improve tools and machines.

Mechanical engineering programs include topics such as:

- Manufacturing systems
- Physical science
- Power systems

Schools

Community colleges and other 2-year schools offer associate degree programs. An associate degree usually takes two years to complete. After earning an associate degree, students can transfer to a college or university for further study.

Many colleges and universities offer bachelor's degrees in mechanical engineering. A bachelor's degree usually takes about four or five years of full-time study.

Many universities offer graduate degrees in mechanical engineering. A master's degree typically requires two years of study beyond a bachelor's degree. Doctoral (PhD) degree programs usually require two or more years of study beyond the master's degree.
MECHANICAL ENGINEERING

Topics
- Overview
- Program Admission
- Graduate Admissions
- Typical Course Work
- Things to Know
- Resources
- In Idaho

State Schools
The links below will display a list of schools that offer this program of study.

- Eastern Idaho Area Schools
- Northern Idaho Area Schools
- Selected Schools Near Idaho
- South Central Idaho Area Schools
- Southwestern Idaho Area Schools
Set Goals & Make Plans

Students need to develop a map or plan that will help them reach their career goals.
Set Goals

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College Entrance/GED/ASVAB Tests
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Civil Service Tests
You can create an Individual Course Plan to map out your courses during your four years of high school and further. Here is some information to help you decide which courses to enter.

Go Capital Softball!!!

Choose which year of study you would like to plan.

- All
- Middle School Years
- High School Years
- Postsecondary Years
- Adult Years

Pathway: Ag Science-Plant Science

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<th>Course</th>
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<th>Credits/Units</th>
<th>Grade</th>
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<td>Ag Science-Criminal Justice</td>
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<td>Ag Science-Animal Science</td>
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<td>Broadcasting-Video Production</td>
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For 7th Grade:

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<td>General Personal Pathway</td>
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<td>Law Enforcement</td>
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Add More Courses

Save Information
Make Plans

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Career Plan

What is Career Plan?

High school is a time to explore and prepare. Thinking about what you want from high school and taking concrete steps to achieve your goals will help you reach your dreams.

Career Plan helps you learn more about yourself, research and evaluate your options, set and update goals, and make plans to assure your success. Whether you want to go to college, get a job, or follow some other pathway, the journey will be more rewarding if you follow some simple steps.

Career Plan is organized into three levels of activities:

- Getting Started - Activities for you to use to begin your plan, typically grades 8-9.
- Looking Deeper - Activities to help you expand and update your plan as you explore your dreams, typically grades 10-11.
- Next Steps - Activities that focus on getting ready for your life and learning after high school, typically grade 12.

Each level contains five sections with activities that help you answer some reflection questions posed in the section. Your answers to the questions create your plan. The five sections portrayed on the logo to the right are:

- Know Myself - activities to help you better know yourself
- Research Options - activities to help you research occupations and training options
- Evaluate Options - activities to help you weight your options
- Set Goals - activities to help you set personal, academic and career goals, and
- Make Plans - activities to support your career and life planning.

You will repeat these five sections within each level, thus the arrows of the logo form a circle. As you grow and change, the world changes around you, and the goals you hold may need amending. Be open to change and be thoughtful in your planning to keep the doors to your future open.

A final reminder - Life is not a destination so enjoy your journey.
Paying for School

It takes money to go to college, but it is completely worth the investment. Most college graduates earn twice as much in their lifetime as high school graduates. There is a lot of financial aid available to students, including scholarships, grants, and loans. There are also many other ways to pay for education, including community or military service.

Learn all you can about how to apply for financial aid. Understanding the application process will help you get the most out of it — and get the most cash for your education!

Cost of School
How much does higher education cost? It’s more than just tuition. But you probably won’t have to pay the full amount, either!

Applying for Financial Aid
Learn as much as you can about the process to get the most money for your education. And start applying early!

Scholarships
Scholarships are financial aid awards for your accomplishments. There is one for just about every talent or achievement!

Other Ways to Pay
Financial aid is just the start. There are hundreds of ways to earn money for school. Some may even help your future career!

Grants
Governments, schools, and other organizations offer aid based on financial need. You don’t have to be poor to receive grants though!

Loans
Nearly all students are eligible for educational loans, and most students borrow at least a little. But loans do have to be repaid!

Tuition Reduction & Cooperative Programs
These are special programs that make it more affordable for Idaho students to attend out-of-state public schools, medical school, graduate schools, and veterinary schools.

Note: If you are looking for information on specific scholarships, use the Categories Index, Titles Index, or Search tabs in the top toolbar.
BEFORE APPLYING

- Organize and track your postsecondary applications
- Use Idaho Career Information System to learn more about applying to schools
- Track your entrance exams, meetings with advisors and counselors, scholarship applications, and visits to school campuses and to college or career fairs

Use Idaho Career Information System to Learn More

- Learn more about Programs of Study
- Learn about State Schools and US Colleges and Universities
- Search for schools with School Sort

Take Entrance Exams

No entrance exams have been added

Meet with Advisors and Counselors

No meetings with advisors have been added

Apply for Scholarships

No scholarships have been added

Visit Schools and Go to College/Career Fairs

No school visits or college or career fairs have been added
We provide you with tools to help students make connections between education and the world of work.
Curriculum

Find learning activities by curriculum objective:

Career Plan Level
-- Any Level

Career Plan Themes
-- Any Theme

American School Counselor Association (ASCA) Domains
-- Any Domain

Common Core State Standards
-- Any Standard

Subject Areas
-- Any Subject Area
-- Any Subject Area
  Advisory
  Career and Technical
  English/Language Arts
  Financial Literacy
  Health and PE
  Mathematics
  Science
  Social Studies/Social Science
  Visual and Performing Arts

Teach students about CIS
Find out more about CIS

www.idahocis.org

Contact the CIS team

idahocis@labor.idaho.gov
208-334-3705