



# **Idaho Career Information System: Fostering STEM Career Awareness**

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CIS Administrator

Idaho Department of Labor

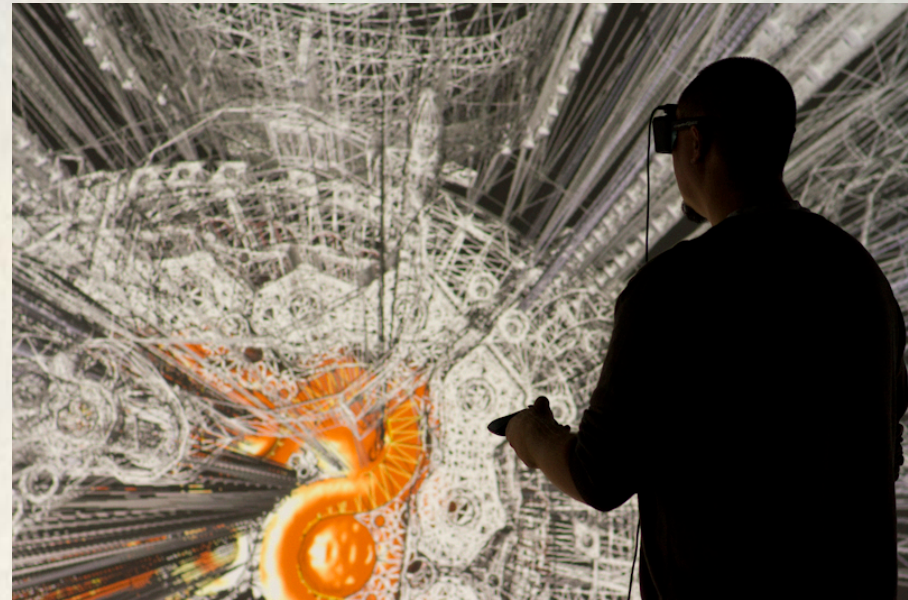
**IDAHO**  
DEPARTMENT OF LABOR

# What we hear...

“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.”



Sources: “STEM 101: Intro to tomorrow's jobs.” U.S. Bureau of Labor Statistics. Issued: Spring 2014

“Increasing Student Interest In Science, Technology, Engineering and Math (STEM): Massachusetts STEM Pipeline Fund Programs Using Promising Practices , March 2011.

“Numbers: Not Just for Math Majors Anymore.” New York Times, March 25, 2013.

# 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.



# What is STEM?

SCIENTIFIC SALES  
ENGINEERING  
PHYSICAL SCIENCE  
LIFE SCIENCE  
TECHNICAL SALES  
COMPUTER  
MANAGERIAL  
HEALTHCARE  
POSTSECONDARY TEACHING  
ARCHITECTURE  
SOCIAL SCIENCE  
MATHEMATICAL

# STEM



# STEM Jobs in the U.S.

More than

**1** out of every **10**  
US jobs  
STEM related



STEM employment  
expected to grow

**+13%**

between 2012 & 2022

Average wage for  
STEM occupations

**1.7X**

National average  
wage for all  
occupations







# My Portfolio

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



# My Portfolio



Plan

Assessments

Occupations

Education

Employment

My Portfolio

Search



## 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



# Know Myself

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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.

# Interests



Plan

Assessments

Occupations

Education

Employment

My Portfolio

Search



## 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

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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



Plan

Assessments

**Occupations**

Education

Employment

My Portfolio

Search



## 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

Occupations

Choosing Occupations

Clusters Index

Titles Index

Compare

Search

Filter

 Print

## 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

<a href="#">Actuaries</a>	<a href="#">Conservation Scientists</a>	<a href="#">Materials Engineers</a>
<a href="#">Aerospace Engineers</a>	<a href="#">Database Administrators</a>	<a href="#">Mathematicians</a>
<a href="#">Agricultural Engineers</a>	<a href="#">Drafters</a>	<a href="#">Mechanical Engineers</a>
<a href="#">Agricultural Scientists</a>	<a href="#">Electrical and Electronics Engineers</a>	<a href="#">Medical Scientists</a>
<a href="#">Animal Scientists</a>	<a href="#">Electronics Engineering Technologists</a>	<a href="#">Meteorologists</a>
<a href="#">Architects</a>	<a href="#">Energy Engineers</a>	<a href="#">Mining Engineers</a>
<a href="#">Astronomers</a>	<a href="#">Engineering Technicians</a>	<a href="#">Natural Sciences Managers</a>
<a href="#">Biologists</a>	<a href="#">Environmental Engineering Technicians</a>	<a href="#">Nuclear Engineers</a>
<a href="#">Biomedical Engineers</a>	<a href="#">Environmental Engineers</a>	<a href="#">Operations Research Analysts</a>
<a href="#">Cartographers and Photogrammetrists</a>	<a href="#">Environmental Scientists</a>	<a href="#">Petroleum Engineers</a>



Any time you see this icon in CIS, you've found STEM information.



# Occupation Information

Occupations

Choosing Occupations

Clusters Index

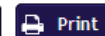
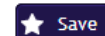
Titles Index

Compare

Search

Filter

## MECHANICAL ENGINEERS



### Topics

Overview

- Specific Activities
- Common Activities
- Working Conditions
- Physical Demands
- Skills and Abilities
- Knowledge
- Preparation
- Helpful High School Courses
- Hiring Practices
- Licensing / Certification
- Wages
- Employment Outlook
- Green in Idaho
- Interests
- Advancement Opportunities
- Resources

### Related Information

- US Jobs
- Idaho Businesses
- Programs of Study
- Occupations
- Industries

### Real World Interviews

Mechanical Engineer

### Videos

View Video

### 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.



View Video

### 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 \$79,460 per year (Idaho median)

# Career Clusters

Occupations

Choosing Occupations

Clusters Index

Titles Index

Compare

Search

Filter

## Clusters

- 📁 Agriculture, Food, and Natural Resources
- 📁 Architecture and Construction
- 📁 Arts, Audio/Visual Technology, and Communications
- 📁 Business Management and Administration
- 📁 Education and Training
- 📁 Finance
- 📁 Government and Public Administration
- 📁 Health Science
- 📁 Hospitality and Tourism
- 📁 Human Services
- 📁 Information Technology
- 📁 Law, Public Safety, Corrections, and Security
- 📁 Manufacturing
- 📁 Marketing
- 📁 Science, Technology, Engineering, and Mathematics
- 📁 Transportation, Distribution, and Logistics



## 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.



# Cluster Files

Occupations

Choosing Occupations

Clusters Index

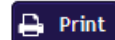
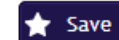
Titles Index

Compare

Search

Filter

## SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS



### Topics

Overview

Pathways

Skills

Helpful High School Courses

Level of Education and Earnings

Employment Outlook

Additional Resources

### Related Information

Occupations

Programs of Study

### Videos

View Video

### 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



Plan

Assessments

Occupations

Education

Employment

My Portfolio

Search



## Education

Identify programs of study that interest you and schools that offer them.

Learn more about apprenticeships.

Explore your options for paying for school.

[Learn more](#)

### 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

# Programs of Study

Occupations

Choosing Occupations

Clusters Index

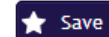
Titles Index

Compare

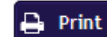
Search

Filter

## MECHANICAL ENGINEERS



Save



Print

### Topics

- Overview
- Specific Activities
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- Working Conditions
- Physical Demands
- Skills and Abilities
- Knowledge
- Preparation
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### Related Information

- US.jobs
- Idaho Businesses
- Programs of Study
- Occupations
- Industries

### Real World Interviews

- Mechanical Engineer

### Videos

- View Video

### 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

# Specific Program Information

Programs of Study

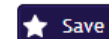
About Programs of Study

Categories Index

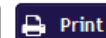
Titles Index

Search

## MECHANICAL ENGINEERING



Save



Print

### Topics

Overview

- [Program Admission](#)
- [Graduate Admissions](#)
- [Typical Course Work](#)
- [Things to Know](#)
- [Resources](#)
- [In Idaho](#)

### Related Information

- [State Schools](#)
- [US Colleges and Universities](#)
- [Programs of Study](#)
- [Occupations](#)
- [Paying for School](#)

### 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 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.

# State Schools

Programs of Study

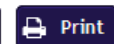
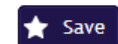
About Programs of Study

Categories Index

Titles Index

Search

## MECHANICAL ENGINEERING



### Topics

- [Overview](#)
- [Program Admission](#)
- [Graduate Admissions](#)
- [Typical Course Work](#)
- [Things to Know](#)
- [Resources](#)
- [In Idaho](#)

### Related Information

- [State Schools](#)
- [US Colleges and Universities](#)
- [Programs of Study](#)
- [Occupations](#)
- [Paying for School](#)

### 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

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

# Set Goals



Plan

Assessments

Occupations

Education

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My Portfolio

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### What practice tests can I take?


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Civil Service Tests

# Course Planner

## COURSE PLANNER

 Print

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  
 All  
 Middle School Years  
 High School Years  
 Postsecondary Years  
 Adult Years

Pathway Ag Science-Plant Science

**Middle School**

- Academy of Auto Tech-Auto Mechanics
- Academy of Auto Tech-Collision Repair
- Academy of Health Professions-Certified Nursing Assistant
- Academy of Health Professions-Dental Assisting
- Academy of Health Professions-Emergency Medical Technician
- Academy of Health Professions-Sports Medicine
- Academy of Info Technology-Information Support
- Academy of Info Technology-Web and Digital Communications
- Academy of Pre-Engineering
- Administrative Support
- Ag Science-Ag Mechanics
- Ag Science-Animal Science
- Ag Science-Plant Science
- Broadcasting-Video Production

**6th Grade**

- Business Ownership/Entrepreneurship
- Commercial Photography
- Drafting Technology
- Early Childhood Professions
- General Personal Pathway
- Law Enforcement

Course Plan

Req.	Credits/Units	Grade	Notes
▼	▼		✘
▼	▼		✘

Term	Req.	Units	Grade	Notes
▼	▼	▼		✘
▼	▼	▼		✘



# Make Plans



Plan

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College Entrance/GED/ASVAB Tests

Advanced Academic Tests

Civil Service Tests

# Career Plan

My Career Plan

Getting Started

Looking Deeper

Next Steps

Writing Worksheet

Report

Print

## 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

**Paying for School**

**Cost of School**

**Applying for Financial Aid**

**Scholarships**

**Grants**

**Loans**

**Other Ways to Pay**

**Tuition Reduction & Cooperative Programs**

**Sources**

**Section Map**

## 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!

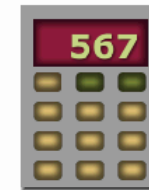
### Loans

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.

## What is the Value of a College Education?



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

# Application Tracker


Application Tracker

Before Applying

Apply

After Applying

## BEFORE APPLYING

 Print


- 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

 Help

- Learn more about [Programs of Study](#)
- Learn about [State Schools and US Colleges and Universities](#)
- Search for schools with [School Sort](#)
- Create your résumé with [Résumé Creator](#)
- Explore [Career Plan](#)


### Take Entrance Exams


 Help

 Add New

No entrance exams have been added


### Meet with Advisors and Counselors


 Help

 Add New

No meetings with advisors have been added


### Apply for Scholarships


 Help

 Add New

No scholarships have been added

### Visit Schools and Go to College/Career Fairs

 Help

 Add New

No school visits or college or career fairs have been added



# Educator Resources

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We provide you with tools to help students make connections between education and the world of work.

# Framework



Implementation  
Framework for

## My Career Plan

for 5th - 8th grade  
users of CIS Junior

2013-2014



## Career Development Framework

for CIS

2013-2014



# Curriculum

## Curriculum



(For best results, sort on *one or two* criteria:)

### 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*

