

Online Learning Materials

- JoVE – Visualized experiments
- MERLOT - repository for online learning materials, digital case story repository, Open textbook etc.

JoVE (Journal of Visualized Experiments)

- A peer-reviewed scientific journal
- Publishes experimental methods in video format
- Publisher: MyJove Corp., Cambridge, MA
- Impact Factor: 1.108
- Focuses on creating two types of scientific videos
 - **Video Journal** – peer reviewed video method journals
 - **Science Education Library** – teaching fundamentals through video demonstrations

JoVE

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graph TD; JoVE --> jove_video[jove VIDEO JOURNAL]; JoVE --> jove_science[jove SCIENCE EDUCATION];
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jove VIDEO JOURNAL

Our peer-reviewed journal combines high-quality video demonstrations of experiments with a detailed text protocol, allowing researchers around the globe to learn from each other easily and efficiently. This saves a lot of their time, money and laboratory resources. The fields covered include: Biology, Neuroscience, Medicine, Bioengineering, Engineering, Genetics, Cancer Research, Immunology and Infection, Chemistry, Behavior, Environment, Developmental Biology, and Biochemistry.

Limited availability

jove SCIENCE EDUCATION

Educators and students use our innovative video collections in the JoVE Science Education Library to better teach and learn key concepts and fundamental techniques at the undergraduate course level. These simple, easy-to-understand video demonstrations cover a wide range of STEM subjects including Biology, Chemistry, Environmental Science, Psychology, Clinical Medicine and Engineering.


**Available and can be
accessed using ISU Net-ID**



BIOENGINEERING



ELECTRICAL ENGINEERING



MECHANICAL ENGINEERING



CHEMICAL ENGINEERING

A photograph showing a large, light-colored concrete or stone block being tested or broken apart by a heavy-duty mechanical press. The block is cracked and crumbling under pressure.

STRUCTURAL ENGINEERING

A photograph of a male student in a white lab coat and blue gloves working with a small, yellow, rectangular object on a piece of laboratory equipment. A circular saw blade is visible in the background.

BIOMEDICAL ENGINEERING

A photograph showing a pair of blue nitrile gloves using long, curved metal tweezers to lift a small, dark, rectangular component from a larger, dark metal assembly.

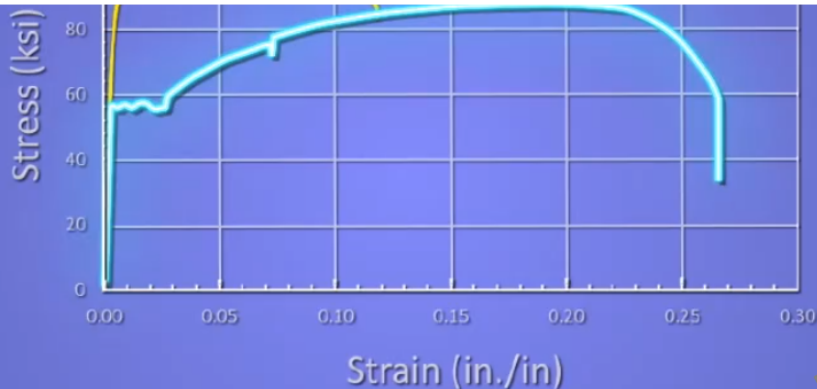
MATERIALS ENGINEERING

A photograph of a male student wearing large blue over-ear headphones and a dark polo shirt, operating a control panel with various knobs, switches, and gauges. Yellow equipment is visible in the background.

AERONAUTICAL ENGINEERING

Features of JoVE

- PDF text files can be downloaded
- The video may be embedded on a website
- Video can be shared through Facebook, Twitter and LinkedIn
- Text can be translated to: Chinese, French, German, Japanese, and Spanish



DOWNLOAD PDF

ADD TO FAVORITES

EMBED

SHARE

TRANSLATE TEXT TO:

Choose Language...

中文 (Chinese)

français (French)

Deutsch (German)

日本語 (Japanese)

español (Spanish)

OVERVIEW

Source: Roberto Leon, Department of Civil and Environmental Engineering, Virginia Tech, Blacksburg, VA

chromium, manganese, and nickel.

Variations in the composition and processing methods can tailor its properties for construction of cars, bridges, and skyscrapers, to name only a few of the nearly infinite possible uses.

Understanding steel's response to load is important when designing safe

1:05 Principles of Uniaxial Tension

3:14 Specimen Preparation

4:00 Stress-Strain Testing Protocol

7:46 Data Analysis

10:42 Results

11:58 Applications

13:01 Summary

Material Constants

Stress-Strain Characteristics of Aluminum

PREVIOUS VIDEO

NEXT VIDEO

Accessing JoVE

- Visit <https://www.jove.com/>
- Click **LOG IN** (top right corner)
- Choose **Continue with Shibboleth**

Sign Up

New to JoVE? [Start your free trial](#)

[I Have a Trial Code.](#)

Continue with Shibboleth

Accessing JoVE

- Select **Iowa State University** as the institution
- Choose **Okta** to sign
- Login with **ISU Net-ID** Click **Science Education** at the top right corner for accessing video demonstration
 - Select **Engineering**
 - Select your discipline
- Link to a short [video](#) showing the login steps

MERLOT

- Access is free, but need to setup a user ID
- Includes discipline-specific learning materials and learning exercises
- Integrates a variety of material types: Animation, assessment tool, case study, presentations etc.
- Project began in 1997; Originally developed by California State Uni. Center for distributed learning
- Modelled after the NSF funded project, "Authoring Tools and An Educational Object Economy (EOE)"

DICIPLINE-SPECIFIC MATERIALS (Quantities)

- [Aerospace and Aeronautical Engineering](#) (273)
- [Agricultural and Biological Engineering](#) (57)
- [Audio Engineering](#) (5)
- [Biomedical Engineering](#) (61)
- [Chemical Engineering](#) (216)
- [Civil Engineering](#) (609)
- [Computer Engineering](#) (195)
- [Electrical Engineering](#) (1084)
- [Engineering Science](#) (25)

DICIPLINE-SPECIFIC MATERIALS (Quantities)

- [Environmental Engineering](#) (159)
- [Geological Engineering](#) (254)
- [Industrial and Systems](#) (120)
- [Manufacturing Engineering](#) (97)
- [Materials Science and Engineering](#) (375)
- [Mechanical Engineering](#) (864)
- [Mining Engineering](#) (5)
- [Nuclear Engineering](#) (67)
- [Ocean Engineering](#) (14)
- [Petroleum Engineering](#) (20)

The MERLOT system provides access to curated online learning and support materials and content creation tools, led by an international community of educators, learners and researchers.

SmartSearch

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[Advanced Material Search](#) | [Advanced Member Search](#) | [ISBN Search](#)

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MERLOT Collection



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All Disciplines



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Submit an online learning material you've found or created to the MERLOT Collection.



Create a Material

Use Content Builder to create a webpage or site to host your own learning materials.



Create a Course ePortfolio

Build your entire course – from prerequisites to online resources to assessment.