

Newsletter

Special Interest Articles

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FREE Moodle Training Courses from PRISM!

PRISM Members,

We are offering three FREE online training courses beginning next week. Note that a new course, Advanced Moodle for Teachers, is now available.

We offer Professional Growth Plan (PGP) points for each course.

Basic Moodle for Teachers (10 PGP Points)

Dates: February 25 – March 25

A basic introduction to Moodle 2.6.1. You will learn how to build a classroom course and populate it with files, assignments and quizzes.

Intermediate Moodle for Teachers (10 PGP Points)

Dates: February 26 – March 26

A continuation from the Basic Moodle for Teachers course. Choose this course if you already have Moodle experience and would like to learn how to use some of the more advanced features like wikis, databases, lessons, and RSS feeds.

Advanced Moodle for Teachers (10 PGP Points)

Dates: February 27 – March 27

A continuation from the Intermediate Moodle for Teachers course. This course will take the Intermediate level course a step further as participants learn advanced grade-book features, groups and groupings, conditional activities, and the workshop activity module.

Let me know if you have any questions or would like more details about the courses. All of the courses are completed online at your-own-pace during your own free time.

If you would like to register for a course, please visit the PRISM website (www.rose-prism.org), log in, and click the 'Event Registration' link. Use the drop-down menu to select the appropriate course and click the 'Registration Form' button. You will see a complete description of the course. To sign up, scroll down and enter your information. You should receive a confirmation email. If you do not receive a confirmation email, please contact us.



Read More at:

<http://www.usnews.com/news/stem-solutions/articles/2014/02/05/report-stem-job-market-much-larger-than-previously-reported>

STEM Job Market Report

New data shows there is a much larger demand for students trained in STEM fields than previously thought.

By Allie Bidwell
U.S. News and World Report

The demand for students trained in science, technology, engineering and math fields may be significantly larger than previous studies have estimated, according to new data from Burning Glass Technologies.

The new analysis of millions of job postings found there were 5.7 million openings in STEM fields in 2013, 4.4 million of which required at least a bachelor's degree and 2.3 million of which were entry-level jobs that call for less than two years of experience.

"The market for STEM jobs is bigger, actually significantly bigger, than most other studies have reported in the past," says Burning Glass Chief Executive Officer Matt Sigelman. "We also found that graduates in STEM fields have much better prospects, both because they are competing for a large number of jobs... but also because they make substantially more."

Nearly half of all entry-level STEM jobs required a bachelor's degree or higher, while just 29 percent of bachelor's degree recipients earn a degree in a STEM field,

the study says. For those earning less than a four-year degree, on the other hand, 24 percent of entry-level jobs are available, while 32 percent of sub-baccalaureate degrees are awarded in STEM fields. And the average advertised starting salary for entry-level STEM jobs that require at least a bachelor's degree was 26 percent higher than those for non-STEM fields, the study found.

Drilling the data down a different way, the study found there were about 2.5 entry-level job postings for each new bachelor's degree recipient in a STEM field, compared with 1.1 posting for each new four-year graduate in a non-STEM field.

The Burning Glass analysis differed greatly from other studies because it used a significantly different methodology, Sigelman says. While other studies typically rely on a mix of forecasts from the Bureau of Labor Statistics, expected new entrances into the job market and retirement predictions, the Burning Glass researchers analyzed the text of job postings to identify exactly what employers were looking for. That means certain jobs that would not typically be categorized in STEM fields were included in the new analysis.



<http://www.AskRose.org>

Homework Hotline Hits Milestone

Rose-Hulman's Homework Hotline has surpassed a major milestone – 500,000 math and science tutoring sessions with middle and high school students across Indiana. This total represents combined calls, online chats, and e-mail sessions with tutors since the hotline's opening in 1991.

"This is an amazing achievement for the Homework Hotline," says Homework Hotline Director Susan Smith Roads. "We are grateful for our tutors and their long history of serving as excellent resources for thousands of Indiana students who need extra help in math and science. We're looking forward to reaching many more students in the future."



Read More at:

<http://www.edutopia.org/technology-integration-introduction>

Why Integrate Technology into the Curriculum?: The Reasons Are Many

By Edutopia Staff

Technology is ubiquitous, touching almost every part of our lives, our communities, our homes. Yet most schools lag far behind when it comes to integrating technology into classroom learning. Many are just beginning to explore the true potential tech offers for teaching and learning. Properly used, technology will help students acquire the skills they need to survive in a complex, highly technological knowledge-based economy.

Integrating technology into classroom instruction means more than teaching basic computer skills and software programs in a separate computer class. Effective tech integration must happen across the curriculum in ways that research shows deepen and enhance the learning process. In particular, it must support four key components of learning: active engagement, participation in groups, frequent interaction and feedback, and connection to real-world experts. Effective technology integration

is achieved when the use of technology is routine and transparent and when technology supports curricular goals.

Many people believe that technology-enabled project learning is the ne plus ultra of classroom instruction. Learning through projects while equipped with technology tools allows students to be intellectually challenged while providing them with a realistic snapshot of what the modern office looks like. Through projects, students acquire and refine their analysis and problem-solving skills as they work individually and in teams to find, process, and synthesize information they've found online.

The myriad resources of the online world also provide each classroom with more interesting, diverse, and current learning materials. The Web connects students to experts in the real world and provides numerous opportunities for expressing understanding through images, sound, and text.

KHAN Academy

Khan Academy is an organization on a mission. We're a not-for-profit with the goal of changing education for the better by providing a free world-class education for anyone anywhere.

Coaches, parents, and teachers have unprecedented visibility into what their students are learning and doing on the Khan Academy.

All of the site's resources are available to anyone. It doesn't matter if you are a student, teacher, home-schooler, principal, adult returning to the classroom after 20 years, or a friendly alien just trying to get a leg up in earthly biology. Khan Academy's materials and resources are available to you completely free of charge.

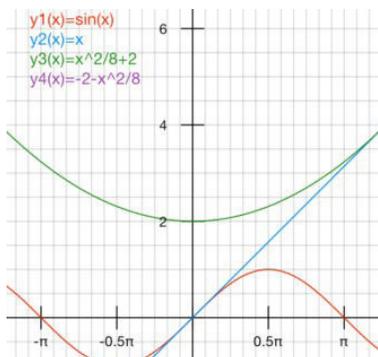
Practice math at your own pace with our adaptive assessment environment. You can start at $1 + 1$ and work your way into calculus or jump right into whatever topic needs some brushing up.

Students can make use of the extensive library of content, including interactive challenges, assessments, and videos from any computer with access to the web.

Each problem is randomly generated, so you never run out of practice material. If you need a hint, every single problem can be broken down, step-by-step, with one click. If you need more help, you can always watch a related video.



<https://www.khanacademy.org>



<https://itunes.apple.com/us/app/free-graphing-calculator/id378009553?mt=8>

Free Graphing Calculator

A powerful, flexible graphing calculator . . . and it's free! Does far more than most of the paid calculators out there . . . let alone the free ones.

Features:

1. Scientific Calculator. Simple to grasp and easy to use, but powerful features are available when you need them.
2. Graphing Capabilities:
3. A unit converter.
4. Constants for scientific calculations
5. It can make a table of the values of any function you care to enter.
6. Help screens linked directly to many of the available functions and constants.
7. Forgot the quadratic formula? The math/science reference hits the high points of various subjects.
8. Keep track of significant figures [AKA sig figs]
9. Statistics -- enter data and make a histogram, box and whisker plot, or scatter plot with optional regression line.



Smithsonian
Science Education Center

<http://www.ssec.si.edu/ms-teaching-resources>

Smithsonian Science Education Center

MISSION

Smithsonian Science Education Center provides science education leadership development to:

- Build awareness for science education among leaders;
- Help develop science education leadership for groups from school districts and states;
- Conduct programs that support the professional growth of teachers; and
- Develop exemplary science instructional materials.

HISTORY

More than 25 years ago, the Smithsonian Institution and the National Academies jointly established the National Science Resources Center. The mission of this unique organization is to improve the K–12 teaching and learning of science for all students in the United States and throughout the world. These widely respected scientific institutions provide the National Science Resource Center with a unique platform, as well as the resources to catalyze change at all levels of the education system. Recently our name changed to Smithsonian Science Education Center (SSEC). This new name better reflects the work of our organization.

Today, the SSEC is nationally and internationally recognized for the quality and impact of its programs on K–12 science education.

VISION

The SSEC's long- term goals are to:

- Develop at least 1500 informed leaders from education, business, government, and science who will champion science education reform efforts at the national, state, and local levels during the next decade;
- Engage and develop the leadership capacity of 7,000 education and community leaders representing several large urban and rural communities, and nine to eleven new states;
- Develop partnerships with at least 20 major corporations and academic institutions that are working to improve science education;
- Stimulate research and evaluation that will continuously improve and advance this work; and
- Increase public knowledge of the Smithsonian's leadership in the transformation of science education.



<http://phet.colorado.edu>

PhET

- PhET provides fun, interactive, research-based simulations of physical phenomena for free. We believe that our research-based approach- incorporating findings from prior research and our own testing- enables students to make connections between real-life phenomena and the underlying science, deepening their understanding and appreciation of the physical world.
- To help students visually comprehend concepts, PhET simulations animate what is invisible to the eye through the use of graphics and intuitive controls such as click-and-drag manipulation, sliders and radio buttons. In order to further encourage quantitative exploration, the simulations also offer measurement instruments including rulers, stop-watches, voltmeters and thermometers. As the user manipulates these interactive tools, responses are immediately animated thus effectively illustrating cause-and-effect relationships as well as multiple linked representations (motion of the objects, graphs, number readouts, etc.)
- To ensure educational effectiveness and usability, all of the simulations are extensively tested and evaluated. These tests include student interviews in addition to actual utilization of the simulations in a variety of settings, including lectures, group work, homework and lab work. Our rating system indicates what level of testing has been completed on each simulation.
- All PhET simulations are freely available from the PhET website and are easy to use and incorporate into the classroom. They are written in Java and Flash, and can be run using a standard web browser as long as Flash and Java are installed.

What PRISM Can Do For You!

- Easily find the perfect teaching and learning resources from our library of over 4,000.
- Save a list of your favorite resources for quick retrieval.
- Create and share lesson plans that teach your subjects utilizing your favorite resources.
- Develop online classrooms with interactive assignments, lessons, quizzes and more!
- Store your classroom materials online so that they are available to you from any computer.
- Reach your students more effectively by using web media for the digital age.
- Earn PGP points by completing PRISM led online Moodle course – either Beginning Moodle or Intermediate Moodle courses are available to you at no cost several times throughout the year.
- Select from free learning resources that emphasize visualization, rich context, staged-problem solving, and electronically enabled collaboration / communication.
- Augment your own dynamic presence in the classroom with teaching tools that mirror the skills needed for success in higher education and the 21st Century workplace.

*Through our strong support from the **Lilly Endowment** and others, we are constantly growing and improving. Check our site regularly to see what new resources you can use in your classroom.*

www.rose-prism.org



PRISM is a free website that provides collections of online resources for Indiana educators in the fields of science, technology, engineering, and mathematics (STEM). The primary collection of digital teaching materials is indexed according to the Indiana Academic Standards for 6th, 7th, and 8th grade and secondary education courses.