

**ONLINE DISTANCE EDUCATION LEARNING OPPORTUNITIES:
NOT FOR A DEGREE OR FOR CREDIT, BUT TO STIMULATE IN-DEPTH
UNDERSTANDING AND LEARNING, AND TO HELP YOU TAKE ADVANTAGE
OF FREE ONLINE OPPORTUNITIES, October 12, 2009 date of last revision**

PART ONE: GENERAL RESOURCES:

OPENCOURSEWARE CONSORTIUM

<http://ocwconsortium.org/> **CLICK ON THE MEMBERS TAB ON THE TOP LEFT.**

An OpenCourseWare is a free and open digital publication of high quality educational materials, organized as courses. The OpenCourseWare Consortium is a collaboration of more than 200 higher education institutions and associated organizations from around the world creating a broad and deep body of open educational content using a shared model. The mission of the OpenCourseWare Consortium is to advance education and empower people worldwide through OpenCourseWare.

The [Open Learning Initiative](http://oli.web.cmu.edu/openlearning/forstudents/freecourses/) (<http://oli.web.cmu.edu/openlearning/forstudents/freecourses/>) offers free high-quality courses created by [Carnegie Mellon University](http://www.cmu.edu/index.shtml) <http://www.cmu.edu/index.shtml>

. There are courses available in Statistics, Engineering, Science, Economics, French, and more. All of the courses are open to anyone that wants to give the courses a try. Users can create an account to track their progress or users can just jump into the course materials without creating an account.

FIVE GREAT SITES FOR FREE VIDEO LECTURES FROM TOP UNIVERSITIES AND COLLEGES:

<http://www.makeuseof.com/tag/best-sites-for-free-video-lectures-from-top-colleges-universities/>

SEARCH FOR ONLINE COURSES: THE SEARCH ENGINE FOR FREE, ONLINE COURSES (September 1 2009 listing): <http://www.courseopedia.com/cpd/index.cfm>

UNIVERSITIES OFFERING FREE COURSES ONLINE (AUG 1 2008 listing)
<http://howtosplitanatom.com/news/7-universities-offering-free-courses-online/>

COURSEPEDIA: [Coursepedia](#) lets you search for online courses by school, topic or career (via [AltSearchEngines](#))

ACADEMIC EARTH <http://academicearth.org/>

Academic Earth provides videos of lectures by top scholars in subjects that range from Astronomy to Entrepreneurship to Religion, and come from universities as celebrated as MIT, Berkeley, Harvard, and Stanford. Visitors must register to view the lectures, but registration is free. There are over 1500 video lectures available, with more being added every day. One can even keep a playlist or download their favorite lectures.

SELECT FREE ONLINE COURSES: <http://www.selectcourses.com/>

This is a a service designed to help people find online degree programs, has posted a list of 100 free courses covering a wide range of topics. The complete title of their list is [100 Awesome Open](#)

[Courses for Those Who Want to Change the World](#). The list is divided into nine sections spanning topics from health to environmental science to engineering, politics, religion, and education

EDUCATIONAL ALTERNATIVES TO YOUTUBE:

<http://www.freetech4teachers.com/2008/11/23-alternatives-to-youtube.html>

TOP MARKS: EDUCATIONAL SEARCH ENGINE:

<http://www.freetech4teachers.com/2009/03/top-marks-educational-search-engine.html>

FREE ONLINE BOOKS: THE BEST IN ANY SUBJECT FIELD

<http://www.septivium.com/b/2009/05/07/mefi/>

Sometimes, students will ask for the best books in a particular subject area to gain subject mastery competency. The following site does that: Educational Advisors: please share colleagues.

MASTER LIST OF FREE ONLINE UNIVERSITIES OFFERING FREE COURSES:

<http://universitiesandcolleges.org/free-online-college-courses/>

FINDING THE RIGHT COLLEGE: http://news.cnet.com/8301-17939_109-10207010-2.html?part=rss&tag=feed&subj=Webware

BEST GRADUATE SCHOOLS 2009, RANKED BY US NEWS AND WORLD REPORT:

<http://grad-schools.usnews.rankingsandreviews.com/best-graduate-schools/>

FOR DISTANCE EDUCATION: GETTING PREPARED FOR COLLEGE: COLLEGE PLANNING ADVICE: <http://www.freetech4teachers.com/2009/04/links-you-might-have-missed-college.html>

EDU PURSUIT: FINDING THE RIGHT COLLEGE FOR YOU:

<http://www.edupursuit.com/index.php>

EXAMVILLE: [Examville](http://www.examville.com/index.jsp) (www.examville.com/index.jsp) is an online resource for preparing for standardized tests and for studying specific content areas. [Examville](http://www.examville.com/index.jsp) features full-length practice tests of the SAT, GRE, GMAT, and LSAT. The tests are timed. Test takers receive their scores as soon as they finish the test. [Examville](http://www.examville.com/index.jsp) also gives users the opportunity to create study groups to study online with the help of classmates and teachers. Teachers and students can use the study guides uploaded to the site by others or upload their own study guides for others to use.

Below is a short video introduction to [Examville: Introduction to Examville](#) from [Examville](#) on [Vimeo](#).

COLLEGE CONFIDENTIAL <http://www.collegeconfidential.com/>

How to choose, apply for colleges with information on Financial Aid.

The following resources might also be of assistance:

College Crunch - Resources for College and Career Planning:

<http://www.freetech4teachers.com/2008/12/college-crunch-resources-for-college.html>

College Grazing - Help Students Focus College Search:

<http://www.freetech4teachers.com/2009/04/college-grazing-helps-students-focus.html>

College Planning: <http://www.freetech4teachers.com/2009/04/links-you-might-have-missed-college.html>**TEACHER PROFESSIONAL DEVELOPMENT AND TEACHER RESOURCES BY ANNENBERG MEDIA <http://www.learner.org/index.html>**

A library of multimedia professional development workshops and other resources for teachers of K-12 through college, searchable, and browsable by broad topic and grade level. There are also some presentations for students and adult learners as well.

HUNDREDS OF FREE COLLEGE LECTURES FROM YOUTUBE:

<http://chronicle.com/wiredcampus/article/3615/new-from-youtube-free-downloads-of-college-lectures>

ONLINE RESOURCES FOR COLLEGE STUDENTS:

<http://www.onlinecollege.org/2009/01/22/free-or-open-source-tools-for-students/>

HOMEWORK HELP: INCLUDES STUDY SKILLS AND WRITING BETTER:

<http://www.infoplease.com/homework/>

E-JOURNALS PERTAINING TO STUDENT LIFE IN THE U.S.:

See You in the USA: <http://www.america.gov/publications/ejournalusa.html#0905>

Campus Connections [E Journal]: International Students talk about their educational experiences abroad and discuss in essay form how their study in the U.S. shaped their lives and gave them opportunities and new perspectives: AUG 2009 EJOURNAL ON STUDY USA:

<http://www.america.gov/publications/ejournalusa/0809.html>

PART TWO: SPECIFIC ONLINE or TRAINING COURSES BY DISCIPLINE:

ACCOUNTING LESSONS: <http://www.moneyinstructor.com/lesson/accountintrolp.asp>

ACCOUNTING: AN INTRODUCTION: <http://www.simplestudies.com/home.htm>

ANATOMY AND PHYSIOLOGY TUTORIALS:

<http://www.freetech4teachers.com/2008/09/interactive-anatomy-and-physiology.html>

ASTRONOMY: <http://csep10.phys.utk.edu/astr162/lect/>

BIOETHICS RESOURCES ON THE WEB: <http://bioethics.od.nih.gov/casestudies.html>

BIOLOGY BROWSER: TEACHING AND LEARNING RESOURCES

http://www.biologybrowser.org/bb/Subject/Education/Biology_Teaching_Resources/index.shtml

Provides science educators with a wide array of activities that can be used in the classroom.

Currently, the site features over 190 resources related to various areas of biology. Visitors can search through the resources by subject, geography, or organism.

BIOLOGY ANIMATION LIBRARY <http://www.dnalc.org/ddnalc/resources/animations.html>

This Biology Animation Library is a real find. Visitors to the site can view one of a dozen animations offered here, and they can also download them for their own use. The animations include a brief overview of cloning, several on DNA, gel electrophoresis, and polymerase chain reaction. One can imagine that utilizing these animations in a genetics classroom would be quite easy, and students could even use these materials as a way to review basic genetic concepts. The site is rounded out by a section on the left-hand side that contains links to other educational resources created by experts at the Research Center.

BIOLOGY LESSON PLANS AND TEACHING RESOURCE: www.arkive.org**BIOLOGY LESSON PLANS:** <http://www.arkiveeducation.org/resources.html>**BIOLOGY: ONLINE LABS [PDF]** http://highered.mcgraw-hill.com/sites/0072437316/student_view0/online_labs.html

Like many other academic publishers, McGraw Hill often creates supplementary online materials to be used in conjunction with their various publications.

This particular collection of online materials is meant to be used with one of their recent biology textbooks, but they can certainly be used as stand-alone educational resources for persons interested in the biological sciences. This particular site contains 31 virtual labs that cover topics like evolution, regulatory genes, iron stress in diatoms, and gene technology. These labs are recreations of actual scientific experiments, and visitors are given background information on a topic, an explanation of the researcher's observation, and an overview of how they set up their experiment. The goal of these labs is to help make students and others more comfortable working with primary sources. Finally, the site also includes interviews with principal investigators from the University of Michigan, the University of Alberta, and Auburn University

BIOLOGY COURSE INSTRUCTIONAL MATERIALS:

<http://www.nabt.org/sites/S1/index.php?p=25>

BIOLOGY EDUCATION ONLINE: <http://www.bioedonline.org/presentations/>**BIOTECHNOLOGY: LESSON PLANS AND TEACHING MATERIALS:**

<http://www.mcrel.org/lesson-plans/economics/index.asp>

BLOGS: (LEARNING ABOUT) BLOGS AND WIKIS AND NEW MEDIA:

http://ocw.usu.edu/Instructional_Technology/new-media

BROADCAST AND MEDIA TRAINING: <http://www.bbctraining.com/onlineCourses.asp>

CALCULUS: <http://www.math.ucdavis.edu/~calculus/>

CHEMISTRY: A MOLECULAR APPROACH

http://wps.prenhall.com/esm_tro_chemistry_1/

Created to complement a recent chemistry textbook authored by Nivaldo Tro of Westmont College, the site includes interactive media activities, self-quizzes, and a collection of external links. The materials are linked to the 24 chapters in the textbook, and they include "Gases", "Solutions", and "Electrochemistry". Each of these virtual chapters includes a listing of key concepts, along with slides, a set of useful tools (such as the periodic table), and a short video demonstrating different principles and concepts. Additionally, visitors can use the embedded search engine to look for specific items of interest.

CHEMISTRY: INTRODUCTION TO CHEMISTRY:

<http://dl.clackamas.cc.or.us/ch104-00/index.htm>

New students of chemistry may have trouble keeping their ionic and covalent bonds in order, so they should feel free to consult this helpful site created by Eden Francis, a teacher at Clackamas Community College in Oregon City, Oregon. The information on this site is divided into ten separate lessons, including "Lab Fundamentals I: Physical Properties", "Nature of Atoms: Atomic Structure", and "Chemical Nomenclature". Each lesson contains accessible explanations of each subtopic, along with useful graphics and illustrations. Each section concludes with a "wrap-up" area that will be helpful to students who wish to gain a sense of the overall thrust and focus of each section.

CHEMISTRY: FREE RESOURCES FOR TEACHING CHEMISTRY:

<http://www.freetech4teachers.com/2009/03/open-chemistry-free-content-for.html>

CHEMISTRY: FREE RESOURCES FOR TEACHING CHEMISTRY:

<http://www.freetech4teachers.com/2009/03/open-chemistry-free-content-for.html>

CHEMISTRY: PERIODIC TABLE OF VIDEOS: The Periodic Table of Videos

<http://www.periodicvideos.com>

CHEMISTRY ONLINE: DIGITAL LECTURE MATERIAL:

<http://www.docott.com/files.141/screencasts/> and

CHEMISTRY POWERPOINT LESSONS AND INSTRUCTIONAL MATERIALS

<http://www.chalkbored.com/lessons/chemistry-12.htm> and

3D ORGANIC CHEMISTRY ANIMATIONS

<http://138.253.125.24/~ng/external/>

CHEMISTRY: ORGANIC CHEMISTRY ANIMATIONS

<http://www.chemtube3d.com/> Students who might be puzzled by the world of organic chemistry will definitely want to bookmark this useful site created by a team of researchers at the University of Liverpool. The site focuses on providing interactive 3D animations for a number of important organic reactions that will be encountered by students taking organic chemistry. The site's

homepage contains a list of recent updates and additions, and visitors will want to also look at the list of reactions covered on the left-hand side of the same page. After clicking on each reaction, visitors can view the animation and also click on the animation to view additional resources. For those who are looking for specific reactions, the site also contains an embedded search engine feature.

CHEMISTRY EXPLAINED: LESSONS ONLINE:

<http://antoine.frostburg.edu/chem/senese/101/index.shtml>

CHEMISTRY ONLINE TEXTBOOK: <http://www.chem1.com/acad/webtext/virtualtextbook.html>

CHEMISTRY TUTOR: <http://www.chemtutor.com/>

CHEMISTRY VIDEOS: THE WORLD OF CHEMISTRY

<http://www.learner.org/resources/series61.html>

KITCHEN CHEMISTRY (AN MIT COURSE): <http://ocw.mit.edu/OcwWeb/Special-Programs/SP-287Spring-2006/CourseHome/index.htm>

COPYRIGHT RESOURCES ONLINE: <http://www.library.yale.edu/~okerson/copyproj.html>

EARTH AND ENVIRONMENTAL SCIENCES VIRTUAL COURSEWARE: [INCLUDES BIOLOGY LABS] Virtual Courseware [Macromedia Flash Player]

<http://www.sciencecourseware.org/eecindex.php>

ECONOMICS COME TO LIFE: VISUALIZING ECONOMICS THROUGH GRAPHS AND MAPS: <http://www.visualizingeconomics.com/>

ECONOMICS: USING BLOGS IN ECONOMICS:

http://www.economicnetwork.ac.uk/showcase/ayres_blogs.htm

ECONOMICS CLASSROOM: TEACHERS

<http://www.learner.org/channel/workshops/economics/>

ECONOMICS: EXTENSIVE LESSON PLANS: <http://www.mcrel.org/lesson-plans/economics/index.asp>

EDUCATION: PROFESSIONAL RESOURCES FOR TEACHERS IN ALL SUBJECT AREAS AND EDUCATION LESSON PLANS: ALL FREE AND UPDATED DAILY:

<http://www.freetech4teachers.com/>

EDUCATION: KATHY SCHROCKS GUIDE FOR EDUCATORS: FREE LESSON PLANS:

<http://school.discovery.com/schrockguide/>

EDUCATION LESSON PLANS:

SEE ALSO <http://edsitement.neh.gov> for a collection of other excellent and free lesson plans in all subject areas. and

**EDUCATION, LESSON PLANS: CURRIKI: GLOBAL EDUCATION LEARNING COMMUNITY:
LESSON PLANS IN ALL AREAS:** <http://www.curriki.org/xwiki/bin/view/Main/WebHome>

EDUCATION: LIBRARY OF CONGRESS FOR TEACHERS:
<http://www.loc.gov/teachers/preview/>

**ENGINEERING: FULL TEXT ENGINEERING TEXTBOOK FROM PURDUE
UNIVERSITY:**
https://engineering.purdue.edu/ChE/News_and_Events/Publications/teaching_engineering/index.html

ENGINEERING EDUCATION GATEWAY TO CURRICULUM MATERIALS:
http://www.gatewaycoalition.org/sub_category/sub_category.aspx?subcatid=1022&mccatid=105

**ENVIRONMENT: THE ENVIRONMENTAL LITERACY COUNCIL: TEACHING
RESOURCES** [pdf] <http://www.enviroliteracy.org/category.php/17.html>

Environmental science encompasses a number of fields within the natural sciences, and an interdisciplinary approach to the subject is a must. For educators and students working in this area, the Environmental Literacy Council's Teaching Resources site will be a real find. On their site, visitors should click on over to one of the sections on the right-hand side of the page. The sections here include "General Resources", "Environmental Science Toolkit", and "Survey & Textbook Reviews". The "**Environmental Science Toolkit**" is a good place to start, as it contains data table examples, information on creating citations, a guide to important concepts in environmental science, and an experimental design rubric. Additionally, visitors should not miss the Environmental History Modules which help teachers link up fundamental historical concepts to important environmental issues. These modules include "War and the Environment" and "Ordinary Landscapes", and they are both creative and quite engaging for students and teachers.

FINANCE COURSES ON THE WEB: http://fisher.osu.edu/fin/resources_education/edcourse.htm

GENETICS: INTRODUCTION TO: <http://genetics.gsk.com/overview.htm>

GENOMES: LEARNING ABOUT GENOMES: <http://www.silencinggenomes.org/>

**GENOMES: HUMAN GENOME PROJECT EDUCATION RESOURCES
[REQUIRES REAL PLAYER]**

http://www.ornl.gov/sci/techresources/Human_Genome/education/education.shtml Exploring the world of the human genome project can be quite an undertaking for students new to the subject. Fortunately, the U.S Human Genome Project website contains accessible and age-appropriate educational materials for use in the classroom. Includes "Posters", "Presentations", "Online Educational Modules", and "Downloadable Teaching Aids". There are over several hundred resources contained within the site, and visitors can also make use of the search engine embedded on the homepage to look for specific resources

GEOGRAPHY LESSONS THROUGH FREE VIDEO:
<http://www.learner.org/resources/series180.html>

and: **INTERNET RESOURCES FOR GEOGRAPHERS:**
<http://www.vts.intute.ac.uk/he/tutorial/geographer>.

GEOLOGY: Teaching Geologic Map Interpretation with Google Earth

http://serc.carleton.edu/NAGTWorkshops/structure/teaching_geo_map_interp.html The Structural Geology Resources Collection at Carleton College presents a wide cornucopia of material, and this latest addition adds another new facet to their collection. These two new resources utilize Google Earth in order to help college students learn about geologic map interpretation, and they were created at Bowling Green State University. After reading the brief introduction to these two instructional resources, visitors can click on each one to learn about their respective goals and methodology.

GEOLOGY: PLATE TECTONICS :and GEOLOGIC PROCESSES: Interactives: Dynamic Earth [Macromedia Flash Player] <http://www.learner.org/interactives/dynamicearth/>

This interactive feature from the Annenberg Media's Learner.org site introduces students to plate tectonics, plate boundaries, and such perennial favorites as earthquakes and volcanoes. In the "Earth's Structure" section, visitors can roll the mouse over such features as the crust, the mantle, and the outer core of the Earth to learn about each feature. Moving on, the "Plate Tectonics" area includes the "Continents over Time" interactive feature which asks visitors to place images of the continents in the correct geologic order. Perhaps the most dynamic area of the site (with good reason) is the "Slip, Slide & Collide" area. Overall, the site is a great overview of some basic principles of geology, and one that can be used with students of different ages.

GEOLOGY: MULTIMEDIA VISUALIZATION OF GEOLOGICAL PROCESSES: THE EDUCATIONAL MULTIMEDIA VISUALIZATION CENTER [Quick Time]

<http://emvc.geol.ucsb.edu/> Teachers looking for ways to incorporate dynamic visuals into their earth science courses need look no further than this site. Created by the University of California, Santa Barbara, the site contains dozens of interactive animations and visualization tools that can be used in the classroom to demonstrate various processes. These resources are contained within the "Downloads" section, and visitors can peruse the table of contents for specific features. The table of contents includes global tectonics, regional plate tectonics, Ice Age earth, and four other chapters. Some of these animations include the deglaciation of North America, the South Atlantic spreading, and the Himalayan collision.

GEOLOGY: USGS LEARNING AGE: GEOLOGY

<http://interactive2.usgs.gov/learningweb/teachers/geoage.htm>

The United States Geological Survey (USGS) has created a number of instructional materials for teachers as part of its Learning Web site. The activity and lesson are designed for use by grades 7-12, but these materials could also be used with ease in introductory geology courses at the college level.

GEOLOGY: RESOURCES FOR TEACHERS:

<http://serc.carleton.edu/NAGTWorkshops/structure/index.html>

also see: **ESSENTIALS OF GEOLOGY [Macromedia Flash Player]**

<http://www.wwnorton.com/college/geo/egeo/welcome.htm>

From subduction to the world of hot spot volcanoes, this online resource for students and teachers of geology will please users with its fun and useful animations, crossword puzzles, and well-written articles.

GEOMETRY ONLINE: <http://or.amatyc.org/>

GOOGLE INTERACTIVE TUTORIAL: HOW TO SEARCH BETTER: www.googleguide.com

HISTORY: THE HISTORICAL RESEARCH PROCESS:

http://www.hca.heacademy.ac.uk/resources/case_Studies/snas/index.php

INTERNATIONAL CHILDREN'S LIBRARY: <http://www.icdlbooks.org/>

JOURNALISM and MASS COMM: MULTIMEDIA REPORTING:

<http://journalism.berkeley.edu/multimedia/>

LAW COURSE AT HARVARD UNIVERSITY ON JUSTICE:

Harvard is offering a free online course called [Justice: What's the Right Thing to Do?](http://www.justiceharvard.org/)

<http://www.justiceharvard.org/>

The [course](#) will explore compelling, difficult, questions of justice and morality. The course spans twelve lectures each exploring topics like "The Moral Side of Murder" and "A Lesson in Lying." In addition to the twelve lecture videos, the course website includes supplemental readings and discussion guides. The course website also includes the capability for groups taking the course together to create an online discussion circle.

LAW AND LEGAL TRAINING: See the many professional bibliographies and legal research resources provided through <http://www.llrx.com>

LIBRARY AND INFORMATION SCIENCE: Social Courseware in Libraries Free Course:

www.sociallibraries.com/course/ Covers Blogs, Wikis, RSS

FREE MATH AND SCIENCE VIDEOS FROM TOP UNIVERSITIES:

[Tutor USA http://tutor-usa.com/videos/](http://tutor-usa.com/videos/) is a site that offers a variety of useful links for mathematics teachers. In addition to free worksheets and lesson plans, [Tutor USA](#) has built a nice collection of video tutorials. The videos in the collection come from sources like YouTube, Blip.tv, and TeacherTube. Some of the videos are quick how-to videos while others are longer lecture-style explanations of mathematics concepts.

[Hundreds of Math and Science Video Tutorials](#)

[Open Culture http://www.openculture.com](http://www.openculture.com) has discovered a real gem for education. Khan Academy has a [YouTube Channel http://www.youtube.com/user/khanacademy](http://www.youtube.com/user/khanacademy) on which they have posted hundreds of mathematics and science tutorial videos. The videos range in length from five minutes to 20+ minutes.

MATHEMATICS: eGLOSSARY OF MATHEMATICAL TERMS WITH FORMULAS EXPLAINED: <http://www.glencoe.com/apps/eGlossary612/grade.php>

MATHEMATICS: LESSON PLANS FOR MATH: [Math eBook - Math Lessons for K-12 : http://www.freetech4teachers.com/2009/07/math-ebook-math-lessons-for-k-12.html](http://www.freetech4teachers.com/2009/07/math-ebook-math-lessons-for-k-12.html)

MATHEMETICS LESSONS ONLINE:

<http://or.amatyc.org/>

MATHWAY: <http://www.mathway.com/>

Free step-by-step math solver answers pre-algebra, algebra, geometry, trigonometry, and calculus homework problems with embedded lesson plans.

MATHEMATICS RESOURCES:**INTERACTIVATE - INTERACTIVE MATH ASSESSMENTS**

<http://www.freetech4teachers.com/2009/07/interactivate-interactive-math.html>

200+ FREE MATHEMATICS BOOKS:

<http://www.freetech4teachers.com/2009/04/200-free-mathematics-books.html>

MATH LINKS YOU MIGHT HAVE MISSED:

<http://www.freetech4teachers.com/2009/03/math-links-you-might-have-missed.html>

MATHEMATICS: COLLEGE MATHEMATICS: College Mathematics [Flash Player]

http://wps.prenhall.com/esm_armstrong_coll_math_1/

A number of educational publishers publish websites to complement their print textbooks, and Prentice Hall maintains this site as a way to highlight some of the materials found in their College Mathematics book. The site contains eighteen different sections which cover topics like linear models, integral calculus, and game theory. Each section, found by clicking on the "Jump to ..." link at the top of the page, contains a brief list of objectives, several interactive quizzes, activities, and a chapter test. It's worth noting that while the website doesn't provide access to the entire print chapter, these activities can be used in conjunction with other courses that might be covering similar materials. Visitors can also search the chapters by using the "Search" button near the top of each page.

MATHEMATICS VIDEOS: <http://www.mathvids.com/>

With a focus on a wide range of students and learning abilities, Math Videos provides access to hundreds of instructional videos that relate basic, intermediate, and advanced mathematical concepts. The site contains a number of sample videos, though visitors will need to complete a free registration form to view all of the materials on the site. On the left hand side of the site, visitors will find the videos organized into topics like statistics, linear algebra, discrete math, and differential equations. Further down the site, visitors can look over the most viewed and most popular videos based on ratings from other registered users. The site also has a "Just for Fun" area which contains some number games and a bit of math history. Finally, visitors shouldn't leave the site without checking out their informative weblog.

MATHEMATICS CHEAT SHEETS:

<http://math-blog.com/2008/09/20/13-useful-math-cheat-sheets/>

"MATHEMATICS ILLUMINATED" "Mathematics Illuminated" is a brand new series for teacher professional development and college level instruction that explores major themes in mathematics, with an emphasis on deep questions and their relevance to everyday life. Concepts covered include symmetry, prime numbers, infinity, topology, dimension, game theory, and chaos. A series Web site, which will become available by the series broadcast premiere in April, '08 features an online text.

downloadable guides, links to Video on Demand, video transcripts, a bibliography, and several interactive activities. Check the Web site <<http://www.learner.org/redirect/january/math7.html>> for program descriptions and a link to the broadcast schedule. **REGISTRATION REQUIRED (BUT FREE!)**

MATHEMATICS: COLLEGE ALGEBRA: College Algebra Online Tutorials

http://www.wtamu.edu/academic/anns/mps/math/mathlab/col_algebra/index.htm

Texas A&M University's Virtual Math Lab has created a series of online algebra tutorials for students returning to the world of algebra. First-time visitors should look at their online guide to the tutorials to learn how their tutorials are organized. There are many tutorials offered here; each contains learning objectives, full explanations, and numerous examples of how to correctly solve problems.

MATHEMATICS: LINEAR ALGEBRA: A First Course in Linear Algebra

<http://linear.ups.edu/opentexts.html> The material covered in this online textbook includes systems of linear equations, matrix algebra, and Jordan canonical form. Visitors can download copies of the textbook in the pdf format, or they can just read through the text online. The entire text is provided at no cost, and visitors are welcome to make modifications and then distribute their own modified version.

MATHEMATICS GATEWAY: Math Gateway of the Mathematical Association of America [pdf]

<http://mathgateway.maa.org/do/Home> Created through a partnership with the National Science Digital Library (NSDL), the Math Gateway was developed by the Mathematical Association of America. The site provides a veritable cornucopia of information for educators and those who are curious about anything from algebra to the history of mathematics. Some of these highlights include tips for writing an interactive mathematics text, using statistical samples from a real estate database.

MATHEMATICS: DEVELOPMENTAL MATHEMATICS: SIMPLE WAYS TO MAKE MATH COME ALIVE FOR THE SLOW MATH LEARNER:

<http://www.explorelearning.com/index.cfm?method=cResource.dspChildrenForCourse&CourseID=130>

MATHEMATICS: CALCULUS: <http://www.math.ucdavis.edu/~calculus/>

MATHEMATICS: CALCULUS: <http://or.amatyc.org/> Excellent resource!

MATHEMATICS, SCIENCE AND TECHNOLOGY QUALITY RESOURCES FOR TEACHERS: A LISTING: <http://www.mste.uiuc.edu/resources.php>

MATHEMATICS FOR EVERYDAY USE (great for studying for tests!)

<http://www.weallusematheveryday.com/tools/waumed/home.htm>

MATHEMATICS PUZZLES AND GAMES FOR DEEPER LEARNING OF MATHEMATICAL CONCEPTS: <http://www.cut-the-knot.org/content.shtml>

MATHEMATICS: EXPLANATIONS FOR EASY USE AND APPLICATIONS: ALGEBRA, GEOMETRY, EQUATIONS, etc. <http://equmath.net/>

MATHEMATICS: PROBABILITY TUTORIALS: extensive series of links to actual free lessons.

<http://www.probability.net/>

MATHEMATICS: ONLINE MATH CENTER:

<http://math.whatcom.ctc.edu/content/Links.phtml?cat=3> A collection of math links that include helpful test-taking hints, online exercises, and resources for those looking to find new ways of exploring everything from geometry to measurement. Some of the topics include fractals, developmental math skills, pre-algebra, and applied math. After looking over these sites, visitors can also go to the "Teaching Math" section, which is designed specifically for teachers.

MEDICINE: FREE MEDICAL BOOKS FOR DOCTORS: www.freebooks4doctors.com

MICROBIOLOGY: VIRTUAL MICROBIOLOGY

http://inst.bact.wisc.edu/inst/index.php?module=Book&func=toc&book_id=3

Created at the University of Wisconsin, the Virtual Microbiology site contains a wide range of high-quality scientific educational materials that are meant to supplement and enhance more traditional materials. This particular item is an online textbook, divided into eighteen chapters. Of course, there are the traditional text passages and charts to enhance all of the material, but there are also number of nifty videos that provide additional exploration of topics like pond microbes and hands-on demonstrations. Visitors can also sign up to receive updates about new materials that make their way to the site and they can also provide user feedback.

Other related resources in Math and Sciences are at the AMSER Web Site, the Applied Math and Science Educational Repository at <http://amser.org>.

MICROBIOLOGY: UNSEEN LIFE ON EARTH: AN INTRODUCTION TO MICROBIOLOGY:

<http://www.learner.org/resources/series121.html>
Viruses, DNA testing, and the world of microorganisms are but a few of the topics covered by this series produced by Oregon Public Broadcasting. Presented as part of the Annenberg Media website, this video series consists of twelve half-hour video programs designed primarily for college and high school students. Throughout the programs, students get to meet up with scientists working in the lab and in the field. Some of the programs here include "Genetic Transfer", "Microbial Evolution", and "The Unity of Living Systems". Visitors to the site can watch the videos and they should also look over the "Related Resources" area. Here they will find related programs and free video materials sponsored by Annenberg Media as well as links to other resources.

MIDDLE EAST COURSES: SYLLABI OF COURSES ON THE MIDDLE EAST:

<http://nacho.princeton.edu/~klein/multimediamemes/index.html>

PHYSICS CLASSROOM: TUTORIALS AND ANIMATION: <http://www.physicsclassroom.com/>

PHYSICS: APPLETS FOR SPECIFIC APPLICATIONS:

<http://www.mip.berkeley.edu/physics/appletindex.html>

A Clearinghouse of high-quality physics applets that can be used in a variety of settings. The site is divided into a few basic topical areas, such as mechanics, waves, properties of heat and matter, and optics. While a search engine isn't provided, use the "Find" function to look for specific items of

interest. The applets dealing with various fields of optics are quite strong, and you will no doubt locate at least a handful of applets here for classroom use or to increase an understanding of physics.

PHYSICS: FREE VIDEO DEMONSTRATIONS: Lecture Demonstrations: Brown University Department of Physics <http://www.physics.brown.edu/physics/demopages/demo/>

The elegance and beauty of physics can elude students initially, so physics educators will be glad to learn that this site provides some nice video demonstrations that will be useful in the classroom. This site is part of the Physics Instructional Resource Association. The short video demonstrations on the site are divided into sections that include "fluids", "optics", "waves", and "thermo". Visitors can also take a look at the "Effective Demonstration Techniques" area, which provides some nice guidelines for creating compelling in-class demonstrations. Additionally, the "Presenting Demos" area contains a list of seven guiding principles that serve as a good complement to the other section regarding in-class demonstrations.

PHYSICS: <http://www.physics.pomona.edu/sixideas/siimtc.html>

PHYSICS 620D: ELECTRICITY:

http://galileo.phys.virginia.edu/classes/620/Electricity_home.html#Teacher%20Activities includes: LESSON PLANS, ACTIVITIES AND TEACHER INVESTIGATIONS

PHYSICS TO GO: <http://www.compadre.org/informal/>

PHYSICS: ONLINE LABORATORY EXPERIMENTS: Physics: Online Experiments

<http://littleshop.physics.colostate.edu/onlineexperiments.htm>

PHYSICS: ONLINE PHYSICS DEMONSTRATIONS:

<http://demoroom.physics.ncsu.edu/resources.html> The physics department at North Carolina State University has created this list of online physics demonstration manuals that will be quite a boon to physics educators. Visitors can search online demonstration manuals simultaneously or they can also choose to look over a demonstrations bibliography that contains over 7500 references. Also, visitors may also wish to check out the public lecture demonstration shows offered on the site, along with a collection of links to professional organizations, including The American Association of Physics Teachers.

PHYSICS: WAKE FOREST VIDEO SERIES: Wake Forest University Physics Demonstration

Videos <http://www.wfu.edu/physics/demolabs/demos/avimov/videointro.htm>

Physics is plenty exciting on its own, but this clutch of physics demonstration videos offered up by Wake Forest University's Physics departments will probably have students running out to learn more about string theory and cosmology. Teachers will definitely appreciate this resource, as they can use these videos in the classroom or just recommend to their students. Visitors can view the videos in their entirety by subject headings.

PSYCHOLOGY: ALLPSYCH ONLINE: THE VIRTUAL PSYCHOLOGY CLASSROOM

<http://allpsych.com/> For instructors or students looking for material on many aspects of psychology, the AllPsych Online site may prove to be indispensable. The site was started in 1999, and it contains eight primary sections which cover everything from classic psychology studies to an extensive reference area. Start by looking through the "Reference" area, which features an expanded

timeline of psychology through the ages, a dictionary, and biographies of prominent persons in the field. People interested in entering the field of psychology will want to click on over to the "Careers and Education in Psychology" section for the materials on various academic programs in clinical, counseling, and school psychology.

SCIENCE: 10 UNIVERSITIES OFFER FREE SCIENCE COURSES ONLINE: http://education-portal.com/articles/10_Universities_Offering_Free_Science_Courses_Online.html

SCIENCE AND THE ENVIRONMENT: VIRTUAL COURSEWARE FOR SCIENCE AND THE ENVIRONMENT: <http://www.sciencecourseware.org/eecindex.php>

This Virtual Courseware website brings together a number of thematic instructional resources for science educators, including activities that deal with earthquakes and global warming. Within each module are a number of self-guided tutorials and explanatory materials for instructors to use in their classrooms. This website will be a great find for science teachers working with college or high school students.

SCIENCE and TECHNOLOGY VIDEO LECTURES AND TUTORIALS: <http://videlectures.net/>

SOCIOLOGY COURSE TOOLS: <http://www.sociosite.net/courses.php#TOOLS>

STATISTICS: MORE OR LESS: <http://www.open2.net/moreorless/>

This program asks everything from "What is economics?" to the various aspects of probability in everyday life. The Essential Guides" cover averages, economics, probability, and statistics through the use of straight-forward examples and illustrative devices.

"Behind the Numbers" takes on the notion of chance, media statistics, and the use of tables. Overall, the site is a great place for those who might be generally curious about statistics and related matters.

STATISTICS EXPLAINED: EXPLORING DATA: <http://exploringdata.cqu.edu.au/>

STATISTICAL UNDERSTANDING MADE SIMPLE [Macromedia Flash Player]

<http://www.gla.ac.uk/sums/> Interactive, fun and highly effective tutorials designed to help students understand basic statistics." Additionally, the site also contains several games which students can use to explore the effects of standard deviation and histograms.

STATISTICS: INSIDE STATISTICS: Against All Odds: Inside Statistics

<http://www.learner.org/resources/series65.html> This series of instructional videos allows one to enter the world of statistics with confidence. Intended for a wide range of students, each episode lasts for approximately 30 minutes. Visitors to this site can view the episodes, and they may wish to move around from such topics as distributions, time series, and the ever-popular significance tests. Users will need to sign up to view each program, but this process is offered at no charge.

TECHNOLOGY AND SCIENCE: FACULTY INNOVATION CENTER, UNIVERSITY OF TEXAS AT AUSTIN: <http://www.fic.engr.utexas.edu/resources/index.cfm> Includes tips from faculty on how to motivate student learning, how to teach engineering, how to use Powerpoint, etc.

TECHNOLOGY AND INSTRUCTIONAL RESOURCES:

http://ocw.usu.edu/Instructional_Technology/connecting-people-with-online-resources

WRITING RESOURCES: University College Writing Workshop: Writing Handouts [pdf]

<http://www.utoronto.ca/ucwriting/handouts.html>

Whether it's an interrogative pronoun or just a dangling modifier, this website can provide dozens of helpful writing tips. These writing handouts can be used by anyone with the desire to improve their writing. The handouts cover topics like organizing an essay, the effective and correct use of quotations, and the use of articles. Each section includes specific advice and guidance, and even the most effective writers may learn something new from these guides. Composition instructors may also wish to recommend this site to their students if they are looking for additional high-quality writing resources.

Thousands of other specific free online courses to stimulate in-depth learning may be found through these sites:

FREE VIDEO LECTURES: <http://videolectures.net/site/list/latest/>

UNIVERSITY OF CALIFORNIA at BERKELEY UC Berkeley Releases Entire Course Lectures Free on YouTube:

Press release – "Further expanding public access to its intellectual riches, the University of California, Berkeley, announced that it is making entire course lectures and special events available, free of charge, on YouTube. UC Berkeley is the first university to make videos of full courses available through YouTube. Visitors to the site at youtube.com/ucberkeley can view more than 300 hours of videotaped courses and events. *Topics range from bioengineering, to peace and conflict studies, to "Physics for Future Presidents," the title of a popular campus course.*

Building on its initial offerings, UC Berkeley will continue to expand the catalog of videos available on YouTube."

YALE NOW OFFERS FREE ONLINE COURSES VIA ITS NEW WEB SITE:

<http://open.yale.edu/courses/>

JOHNS HOPKINS SCHOOL OF PUBLIC HEALTH: <http://ocw.jhsph.edu/>

U MASSACHUSETTS AT BOSTON NOW OFFERS FREE COURSE MATERIALS ON THE WEB:UMass Boston OpenCourseWare <http://ocw.umb.edu/>

The University of Massachusetts, Boston now has entered the world of OpenCourseWare. While the courses offered online here will not lead towards a formal degree (or confer course credit), they represent some of the best that the school has to offer. Visitors can click on the "Courses" tab to learn more about the current offerings, which include course materials on political science, biology, history, along with nursing and health sciences. Additionally, visitors can sign up for RSS feeds and they will be notified when new material is added to the site.

NOTRE DAME ONLINE COURSES: <http://ocw.nd.edu>

TUFTS ONLINE COURSES: <http://ocw.tufts.edu>

UTAH STATE UNIVERSITY COURSES: <http://ocw.usu.edu>

UNIVERSITY OF CALIFORNIA AT IRVINE: <http://ocw.uci.edu>

MIT ONLINE COURSES: <http://ocw.mit.edu> [Massachusetts Institute of Technology] offers over 7000 courses, continually growing.

SEARCH ENGINE FOR OPEN COURSEWARE COURSES: <http://ocwfinder.com/>

Other Universities around the world participating in online courseware may be found through this link: <http://www.ocwconsortium.org/about/members.shtml>

COMPREHENSIVE LISTING OF WEB SITES FOR U.S. COLLEGES AND UNIVERSITIES: ARRANGED ALPHABETICALLY BY STATE: <http://www.utexas.edu/world/univ/state/>

OTHER NEW RESOURCES TO HELP YOU:

JUST FREE BOOKS: <http://www.justfreebooks.info/>

A search engine to existing online book sites: highly useful and time efficient!

LOCATING FULL TEXT MIT THESES AND DISSERTATIONS: <http://dspace.mit.edu>

DIGITIZED THESES, DISSERTATIONS AND SPECIAL REPORTS:

DRUM: DIGITAL REPOSITORY OF MARYLAND: <http://www.lib.umd.edu/drum>

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Many other related resources available at: <http://tinyurl.com/6dfaxn>