NANSLO Biology, Chemistry and Physics Core Units and Lab Experiments

Through a Next Generation Learning Challenges grant, NANSLO developed curriculum for first semester Biology, Physics and Chemistry courses and laboratory experiments. These open core courses include core units, lab units and NANSLO remote web-based science lab experiments and are available for broad use. Access these courses through the following links:

- **Biology**
  https://nanslo.pbworks.com/w/page/47323198/NANSLO%20Biology%20Core%20Units%20and%20Lab%20Experiments

- **Chemistry**
  https://nanslo.pbworks.com/w/page/47323277/NANSLO%20Chemistry%20Core%20Units%20and%20Lab%20Experiments

- **Physics**
  https://nanslo.pbworks.com/w/page/47323330/NANSLO%20Physics%20Core%20Units%20and%20Lab%20Experiments

- CCCOnline Biology, Chemistry and Physics Lab Experiments can be accessed through:

Six experiments are available:

- **Biology** – (1) Introduction to Microscopy and (2) Mitosis and Meiosis
- **Chemistry** – (1) Emission Spectroscopy and (2) Beer-Lambert Law
- **Physics** – (1) Uniform Motion and (2) Accelerated Motion
Open Course Library Funded by Student Completion Initiative

The Bill and Melinda Gates Foundation, the Ford Foundation and the Washington State Legislature engaged the Washington State Board for Community and Technical Colleges to create the Student Completion Initiative. Its purpose was to improve access and completions for low-income young adults in pre-college and college courses in Washington state community and technical colleges. One of the components of this initiative, the Open Course Library, created customizable courses available online. Textbook availability, course availability, and content customization were some of the issues being addressed.

Current Science Courses Listed in the Open Course Library
MOOCS (Massive Online Open Courses)


“We believe in connecting people to a great education so that anyone around the world can learn without limits.

“Coursera is an education company that partners with the top universities and organizations in the world to offer courses online for anyone to take, for free. Our technology enables our partners to teach millions of students rather than hundreds.

“We envision a future where everyone has access to a world-class education that has so far been available to a select few. We aim to empower people with education that will improve their lives, the lives of their families, and the communities they live in.”

Here are a few courses in the health field listed on this site:

**University of California San Francisco**
Clinical Problem Solving, Catherine R. Lucey
No upcoming sessions
https://www.coursera.org/course/clinprobsolv

![Clinical Problem Solving](https://www.coursera.org/course/clinprobsolv)
University of Pennsylvania
Fundamentals of Pharmacology, Emma Anne Meagher
No upcoming sessions
https://www.coursera.org/course/pharm101

Fundamentals of Pharmacology
Emma Anne Meagher
In this class you will learn how drugs affect the body, how they alter disease processes and how they might produce toxicity. We will discuss how new drugs are tested and developed prior to them being used for patient care. We will describe how personalization of medicine will become a common day reality in patient care.

Workload: 2-6 hours/week

About the Course
This set of courses will discuss the discipline of pharmacology and its integration throughout medical science. Specifically, the content will be organized as follows: 1) Basic Pharmacological Principles, 2) Applied Pharmacology, the concept of applying the basic principles to each organ system with an emphasis on melding pathophysiology with biologic targets for drug therapy, 3) Therapeutics, considered to be the clinical application of applied pharmacology, including the financial implications of therapy, evidence-based medicine, and the limitations of drug therapy and future directions of therapeutics in all disease states, as well as the legal implications of prescription writing; and 4) Advanced Pharmacological Principles, such as cancer therapeutics.

About the Instructor
Emma Anne Meagher
University of Pennsylvania
Case-Based Introduction to Biostatistics

Scott L. Zeger

Learn to frame and address health-related questions using modern biostatistics ideas and methods.

Workload: 4-6 hours/week

Sessions:
Jul 22nd 2013 (6 weeks long)

About the Course
The course objective is to enable each student to enhance his or her quantitative scientific reasoning about problems related to human health. Biostatistics is about quantitative approaches - ideas and skills - to address bioscience and health problems. To achieve mastery of biostatistics skills, a student must “see one, do one, teach one.” Therefore, the course is organized to promote regular practice of new ideas and methods.

About the Instructor
Scott L. Zeger
Johns Hopkins University
University of California Irvine
Foundations of Virtual Instruction, Cindy Carbajal
Class Starts September 30, 2013
https://www.coursera.org/course/virtualinstruction

UC Irvine
Foundations of Virtual Instruction
Cindy Carbajal
Learn what it takes to teach a K-12 course online! Investigate the history of virtual education, explore innovative tools, and examine key issues related to K-12 virtual instruction.
Workload: 2-4 hours/week

Sessions:
Sep 30th 2013 (5 weeks long)  Sign Up
Future sessions  Add to Watchlist

About the Course
This course provides teachers with the foundation for understanding the movement towards virtual instruction. It introduces fundamental knowledge needed by teachers to succeed in a technology-dependent, instructional environment. You will explore the history of online learning and understand how a variety of delivery models are evolving in the K-12 environment, ranging from completely online to hybrid or blended classrooms. We will discuss how the programs work and who they serve, addressing some basics about equity issues, access and school funding, as well as ethical and legal issues that support and challenge the models. Upon completion of the course, you will understand what it takes to transition from teaching in the classroom to providing virtual instruction.

About the Instructor
Cindy Carbajal
University of California, Irvine
ALLIED HEALTH PROGRAMS

Center for Allied Health Programs, University of Minnesota, http://cahp.umn.edu/blended-online-learning

University of Minnesota Definitions:

“Blended & Online Learning – What is hybrid learning?

“At the core of the Center for Allied Health Programs mission is the adoption of hybrid teaching and learning methods. This new method of instruction is not about transferring content disseminated in the classroom to an online medium; more importantly, it is about creating new learning environments that optimize learning. Research has shown that effective learning is student-centered, knowledge-centered, assessment-centered, and community-centered (Bransford, Brown, & Cocking, 2003; Garrison & Vaughan, 2008) and that it can happen in a multitude of learning environments. Course development in a hybrid format has the student learning experience as the starting point, hence, student-centered. The course developer determines what can be learned online and what requires a face-to-face classroom experience. Knowledge-centered means the content and learning activities are parcelled out in meaningful learning units. Instructors have discovered they do not need to lecture for all content. Assessment-centered means the student learning is frequently measured to determine if they have reached a level of competency. When students attend a classroom session, they often have mastered the material prior to the session. The time spent can guide learning to the next level: an opportunity to apply, synthesize, and deepen the learning experience. Community-centered does not necessarily mean in person. Virtual learning communities require students to interface with their peers to complete assignments and share their learning experiences. Students usually require a few weeks to shift to the new learning platform but by the end of the first semester, seem to understand that effective learning experiences come in many forms.


“Why hybrid learning?

“To remain dynamic and viable, academic institutions preparing the future workforce need to convert to a more accessible and convenient pathway for students. The need for responsiveness is especially true when considering strategies to prepare an allied health workforce in areas of shortages and to meet the needs of the underserved. A blended or hybrid learning model that strategically uses web-based and face-to-face teaching/learning methods is an innovative and strategic way that promotes learner-centered higher education and facilitates a higher learning experience. To learn more about the model and emerging best practices for implementation being used at the Center for Allied Health Programs (CAHP) at the University of Minnesota, click below for the full article.

“Blended Learning: Emerging Best Practices in Allied Heath Workforce Development” Barbara F. Brandt, PhD, CIndee Quake-Rapp, PhD, OTR/L, Janet Shanedling, PhD, Donna Spannaus-Martin, PhD, CLS (NCA), Peggy Martin, PhD, OTR/L, http://cahp.umn.edu/Websites/cahp/files/Content/2146348/Blended_Learning.pdf

Northern Arizona University – Online Allied Health Degrees – http://nau.edu/CHHS/Health-Sciences/Degree-Programs/Allied-Health-Online/

NAU has been offering on-campus degree programs in Health Sciences related areas for over 50 years. With initial funding for the development of this Distance Learning program from the US Department of Health and Human Services, Health Resources and Services Administration, the Health Sciences department began offering the online degree in Health Sciences in Fall 2000 with its first 5 students. By Spring 2010 over 408 students were enrolled in this program from more than 20 states and 21 different allied health areas.

“This program has been of tremendous value not only for me but also for my whole family. Having all of the courses for the program on the Internet has allowed me to bring the university experience into my home and share it with my family. The coursework has expanded my thinking and I have been able to share these experiences with my family. The instructors and courses have been great! I am so grateful for this opportunity to earn a Bachelor’s degree through this Internet program.” - Cindy G., student
Current or prior students at a regionally accredited community colleges in one of the designated Allied Health programs can...

- earn your bachelor’s degree while continuing to work
- learn more about health promotion/disease prevention
- qualify for career advancement opportunities
- attend class on your schedule

BS in Health Sciences:

- Allied Health
- Diagnostic Medical Imaging and Therapy - DMIT (Nuclear Medicine, Ultra Sound, Radiography or Radiation Therapy programs)
- Medical Assisting
- Paramedic Care
- Physical Therapist Assisting
- Respiratory Care
- Surgical Technology

Program highlights

- Flexible online curriculum delivery
- Start before, during, or after completing your AAS
- Transfer in up to 81 lower division credits
- Online access to registration and class schedule
- Advising available in person, by phone, or online
- No commuting or parking hassles

Gainesville State College/University of North Georgia


- Malynde Weaver, Major Grant:
  Development of a Facebook Lab Companion to Improve Student Engagement and Learning of Structure and Function of Organs and Organ Systems in Anatomy and Physiology
  The object of this project is to create an online companion via Facebook for an Anatomy and Physiology lab I class at Gainesville State College. This project will provide an opportunity for students to have quality instructional time without being physically present in the laboratory. This will provide for the large number of students who cannot access the laboratory facilities. This problem has been evidenced through student evaluations. The project involves the creation of a website that houses pictures of the actual laboratory models and histology slides. These are the same models and slides that are in the laboratory room and are often revisited in study time outside of the regularly scheduled lab. The website will be evaluated by student feedback as well as comparison to those students who do not have the website available.

- Malynde Weaver, Mini Grant:
  Development of a Facebook Lab Companion to Improve Student Engagement and Learning of Structure and Function of Organs and Organ Systems in Anatomy and Physiology
  The objective of this project is to create an online companion via Facebook for an Anatomy and Physiology Lab II class at Gainesville State College. This will be a continuation of a page that was previously created for the Anatomy and Physiology Lab I class. This project will provide an opportunity for students to have quality instructional time without being physically present in the laboratory. This will provide for the large number of students who cannot access the laboratory facilities. This problem has been evidenced through my student evaluations. The project involves continuing to add to an already developed page on Facebook (Weaver’s World of Anatomy and Physiology) the pictures of actual laboratory models. These are the same models that are in the laboratory room and are often revisited in study time outside of the regularly scheduled lab. The website will be evaluated by student feedback as well as comparison to those students who do not have the website available.
Allied Health Associations

Association of Schools of Allied Health – www.asahp.org

American Society of Health System Pharmacists – www.ashp.org

Allied Health Education – www.abhes.org

2012 Conference:  Online instruction in Health Education – it can do more than you might think!

Online instruction is rapidly accomplishing many things not considered possible for health education less than a decade ago. Opportunities to maximize classroom space, improve retention, provide online lab simulations, and quality assessment technologies are all part of today’s online classroom. Emerging technologies for collegiate course applications are rapidly adding to those capabilities. Just 10 years ago skepticism dominated: “could ‘real’ college level courses be taught online?” Learn how on-line instructional offerings can do more than you might think for your students and the institution.

Presenter:  Dr. S. David Vaillancourt, Online Director of Education, Ultimate Medical Academy