LSU | Online

Options for Virtual Labs and Simulations for Laboratory-Based Courses

To help with your course's transition to online, consider looking into some of these existing resources before creating your own. The following resources can provide free video tutorials that walk students through sample problems, features additional practice activities like sample problems or practice quizzes, or provides supplemental lecture materials that you can search through by topic and level of education.

MULTI-MODAL RESOURCES	DESCRIPTION
MIT Open Lab Resources	Video demonstrations for scientific lab experiments.
LearnChemE	Multi-modal resources from University of Colorado, Boulder.
Chem Collective	Collection of virtual labs, scenario-based learning activities, tutorials, and concept tests. Content for pre-labs, for alternatives to textbook homework, and for in-class activities for individuals or teams.
Phet Simulations	Interactive simulations for Math & Science.
American Assoc. of Chem Teachers	Chemistry concepts for exploration via interactive simulation.
MERLOT	Searchable database of tutorials, simulations, animations and assignments.
Virtual Microscope	Basics of microscope use trainings and animations.
Virtual Microscope	Curated collection of microscopic views for Geology/Earth Sciences.
The Biology Project	University of Arizona: Interactive simulations and tutorials in biology.
Socratica	Free instructional videos- good for undergrad courses.
National Center for Case Study Teaching in Science	Case studies in Science.
Amrita Online Lab	Virtual labs for the Sciences. Requires account set-up.
Learn Genetics	Science simulations and assignments.
VUMIE	Free instructor resource for microbiology. Student access is not free.
Micrbiology Animations	Animations. No closed captioning.
Web Whiteboard	Free whiteboard that requires no sign in. Share the link and get started (good for 21 days). Good for quick tutoring or demonstration of class concepts.
Hippocampus	Free videos on a variety of disciplines.
OpenStax	Free books.
Cell Academy	Free Biology videos.
Knewton	Wiley is providing their content free through the end of the Spring 2020 semester.
Carolina Distance Learning	Lab kits designed specifically for college-level distance education that provide the same results that traditional labs provide.
VIRTUAL LABS	**DESCRIPTION**
eScience Labs	Kits for mailing to your students that include experiments and exercises. Some digital content/virtual labs also.
Hands-On Labs	Nine Science disciplines.
LabXchange	Simulations for physical sciences and health. Interactives for Biological Sciences and Scientific Process. Additional interactive animations available in numerous scientific disciplines.
Labster	Realistic lab experience that allows students to perform experiments. Chemistry, biology, physiology, microbiology.
PraxiLabs	Biology, Chemistry, Physics. Requires an account, but some free access available.
Beyond Labz	Virtual labs originally created by BYU including Chemistry, Organic Chemistry, Biology, Physics, and Physical Science. $25 individual license. Institutional discounts available.
TableTop Science	Hands-on, interactive science activities. Registration required.