Moving Classroom Lab Instruction to Online

Dr. Kerrie Douglas, Purdue University Assistant Professor of Engineering Education, addresses recent concerns from faculty who need to move their lab instruction to online. Dr. Douglas provides a starting point and lists some options already online and in use at institutions around the world.

Resource Link: https://nanohub.org

TRANSCRIPT

We've had a number of questions related to how are the engineering labs going to be getting moved to the virtual space. The quickest answer for that is, it depends. There isn't one solution that's going to work for every instructor in every course.

My recommendation is the very first thing to think about is what were the learning objectives associated with that lab? What were the learning goals? What hat were students supposed to be able to do and know at the end of the semester? Then to keep those at the forefront of the mind and go out to find those solutions.

The university has been for some time investing heavily in online and virtual labs, augmented reality opportunities, as well as there are the nanohub has over 300 simulations online that are for use for virtual labs with materials. Therefore, there are already a number of resources that are out there. It's going to require working with department heads and working with the faculty in the department who know of what these are to help individual instructors figure out exactly how those same learning objectives can be met in a virtual or online way. Again, the university for years has been investing heavily in this. Professor Mike Sangid (Elmer F. Bruhn Associate Professor of Aeronautics and Astronautics/Prof of Materials Engineering, Purdue University) has received funds from the Instructional Innovation from the Provost office. He's working with Professor (Tamara) Moore (Profesor of Engineering Education, Purdue University), and with investments from the College of Engineering, they have been creating virtual labs for the last few years.

Again, these things were becoming open long before this crisis has come about. These resources are out there. The same with the nanohub simulations, they've been getting used in classrooms around the world. Just by going to nanohub.org, you could look up your content area and locate if there are simulations that can be used. That might be different from what the students were doing physically, but could the same learning objectives be accomplished there?