

What's New With Surveying Education

by

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I believe informing survey practitioners about the efforts to educate future surveyors is important. Sharing information is necessary for a productive partnership between practitioners and educators.

In a previous article I have discussed the University of Maine's effort to offer dual degrees, and an on-line education option. The University of Maine is not unique in these efforts. Many surveying programs are pursuing these and other options.

In this article, I would like to provide some insight into the means and methods I use to provide distance education. Before explaining these means and methods, I will state that it is my opinion that the traditional classroom is superior to the learning methods I will describe. In the traditional classroom, the interaction between the student and instructor provides immediate visual and verbal interaction and feedback. Oftentimes, for the 18-22 year old student, the compulsory attendance in a scheduled class is a necessary requirement in order to create an effective learning environment.

Technology and software have allowed faculty to record lectures, integrate audio and visual stimulations, and animate the visual display. Technology and software have allowed faculty to produce videos on a variety of topics.

To date I have prepared over 116 videos. My colleagues in surveying education have created many more. In only one of the 116 videos is my face shown. These videos are not the 'talking head' video comprised of a video taken of a classroom presentation.

Currently, I use Camtasia software to produce education videos. Once the video has been prepared on Camtasia, I convert the video to mp4 format and upload the video on to YouTube. The YouTube address is sent to students who can enter the address into their web browser and view the video.

Students can ask questions via e-mail or using Zoom software. Zoom software allows face-to-face viewing and conversations much like a Skype connection or Go-To-Meeting software. Zoom allows the entire class to interact with each other and with the instructor.

Exams are scheduled on Blackboard software. The exam is scheduled for a certain date and time period. My exam questions are composed of multiple-choice, multiple answer, and true/false questions. The exam format is very similar to the fundamentals of surveying exam and the principles and practice surveying exam. Question and answer choices are scrambled so that students sitting side-by-side will not likely see the same question at the same time. Even if two students view the same question at the same time, the correct answer to the same question will be in a different order for each student.

There are three general formats for the videos that I prepare. The format depends on the course content. Some courses are predominantly computation or design courses. These videos will display nomenclature, equations, constants, coefficients, and sources for variables followed by example calculations.

The video I prepared explaining vertical curves is an example of this format. The equations and the equation development for vertical curve equations are presented in one video. (<https://youtu.be/vZ1Xwpozax0>) In another video, the vertical curve equations are applied using an example. (<https://youtu.be/o2cw5nDY4do>)

The second format is used to explain the realities of surveying practice. Background, scope, and matter-of-fact aspects of practice are presented in this video format. The format usually shows an example explaining the procedure along with suggestions, explanations, and practical advice. The video on public record research is an example of this format. (<https://youtu.be/rt1BIU0s5YM>)

The third and final format I employ is used for explaining legal doctrines and principles that must be utilized by surveyors. The video is an explanation on how the doctrine or principle applies in a particular situation. This video format explains the elements required for the doctrine and application of the doctrine or principle to be employed by the surveyor. A video explaining practical location is an example of this format. (<https://youtu.be/FSLmUoi7H08>)

The near future will bring many more changes and innovations used for the education of surveying students and practitioners. If you want to receive information on earning a surveying degree by taking on-line courses, always contact your local or regional surveying program first. The local surveying program will offer a quality education at a reasonable price. If you don't have a local or regional program offering what you need, contact Dr. Raymond Hintz at the University of Maine. (Raymond.Hintz@maine.edu)