Interview Summary
Engineering Graphics, Online Delivery by Dr. Amelito Enriquez
October-November 2015

Interview Participants

Five students were identified by Dr. Enriquez and invited to participate in interviews. Four students agreed and were interviewed between 10/18/2015 and 11/9/2015.

Highlights

Students said they spend between 8-9 hours/week and 28 hours/week on the course, including time spent watching the lecture and tutorial videos, doing the lab exercises, etc.   One student said she started out spending only 4 hours a week on the class, but now gives it 8-10 hours of her time.

In response to questions about what they do if they have a question, the students' first response was "email Dr. E."   The students enthusiastically agreed that the incredibly quick and thorough explanations they receive in response to these inquiries—no matter whether it is early morning or late night-- are extremely helpful.   When probed about other ways to find answers to questions that they might have, students said they consult the FAQ and one added that she reviews the archived notes from the Sunday evening online office hours.   The same student said that she tries to "save" her questions for office hours.

The interviewees rarely or never use the forum or ask other students for assistance. They implied that why use the forum when you can email the instructor and be sure that you get the right answer.

The interviewees like the tutors and "go see them when I have a chance." One student did add that "the tutors are probably fine, but why ask them when I can ask Dr. E?"

All interviewees found the video tutorials extremely helpful. One compared them to the Kahn Academy, "only better."   The students agreed that the step-by-step approach is very effective. They all said they like the opportunity to watch and then go back to review information they did not fully absorb or understand.   Students varied in whether they took notes while watching the tutorials. One student said he lets the tutorial run while he does the lab work. The only concerns were technical – there may be some compatibility challenges running the tutorials on Macs. Also, one student – possibly because she is relying on a Mac as well – said that she cannot see on her screen where the instructor's pencil is pointing. She said that "while the video tutorials are good in terms of explanation, the visual is not there."

The students think the homework is "really good" and "exactly what is required on the exam." One student noted that he always applies what he has learned in past videos to "homework and lab."

Students noted that the class enables them to be creative.   One student said that he really likes how Dr. Enriquez does not show them how to solve problems, but instead models an approach they then follow.   Another student pointed to a lab that provided him with the opportunity to "create my own 3-D object."

Students applauded the wealth of resources available to them and the fact that these are all provided in one place, web-based and updated on a regular basis.

Students were divided on whether they liked the online delivery. One likes the opportunity to be "selfpaced and independent" Another students said she would like more opportunities to work with other students and would have preferred "a hybrid option." A third student felt that the online delivery worked for him only because "the instructor is amazing."

One student provided the following advice to other instructors who might be teaching the course online: Provide all the resources up front; archive office hours; provide a lot of structure to prevent students from falling behind.

Suggested improvements

Some students struggled to download Autocad and one of them suggested that it might be helpful to provide students with an option to come in to download the program together. The instructor need not be there for this, a TA would be able to provide the necessary assistance. The joint/assisted downloading activity could help prevent students who have trouble with the downloading fall behind during the first week(s) of class. One interviewee said that her Mac crashed when she tried to download Autocad.   This set her back in terms of doing the labs which she now complete at school (instead of at home).

Despite the many resources available and their use of many of these, students still wanted "more office hours."

Suggested ideas

One student said that one of the many standout qualities about this course is that you can see the direct application to the workplace and that she "files the drawings required for the class away" with the intention of using them as part of the portfolio she will be showing prospective employees. When asked if other students may have thought of how the class assignments can help them build a portfolio, she was not sure. The idea then is to introduce this idea early on and to possibly even create assignments that are particularly likely to result in portfolio entries. The "assignment as a portfolio entry" approach may also have application in other CALSTEP and additional courses.

While the students are extremely happy with this class and feel completely supported and encouraged, the general concern I have about scalability emerged again. In this and other CALSTEP courses, students know that the instructor is there for them 150% and that no question will be left unanswered at any time. They also rely heavily on the instructors for support even though other options (TAs, tutorials, other students, forums) could be used/consulted. This is great if the instructor is completely dedicated as are the CALSTEP faculty members. However, if others are to replicate these courses, it may be important to find ways to strongly encourage students to rely less on the instructor for help. This is also the case if the courses are to be offered to larger numbers of students. In summary, I suggest that we try to encourage or incentivize students to try other sources of support first before they turn to the instructor for help.

The assignment as portfolio idea is terrific. I cannot judge if it is replicable in other engineering courses or if Graphics is particularly likely to produce portfolio pieces.

It may be useful to give students an idea of how much time past students spent on the class. We should ask them in the survey.

We need to explore whether the Mac compatibility is a general problem – if so, students should be warned or the problem fixed.

It may be useful to have the CALSTEP instructional team document how much time they spend on office hours, email support to students, etc.