

## CALSTEP SURVEY SUMMARY – ENGINEERING GRAPHICS

### Online and Classroom Delivery

#### Survey Design and Implementation

**Course delivery:** Dr. Enriquez taught the online version of Engineering Graphics; Professor Wong taught the classroom version of the same class. Both courses were delivered in the Fall semester of 2015 at Cañada College in California.

**Survey design:** The survey was designed by Eva Schiorring (CALSTEP's External Evaluator) and Dr. Enriquez with input from Professor Wong and Tracy Huang (Director of Planning Research & Institutional Effectiveness at Cañada College).

**Survey administration:** The online students were given the survey as an assignment they had to complete by December 3, 2015. Students taking the course in the traditional classroom or Face-to-Face (FTF) mode were asked to complete the survey in class on 11/30/2015, although some had already taken the survey previously (see "Data collection and cleaning" below).

**Data Collection and cleaning of the data:** A total of 24 responses were collected. This included 9 responses from Dr. Enriquez's students and 15 from Professor Wong's students. After consultation with the instructors, it was determined that several students in Professor Wong's class had taken the survey more than once. As a result, the External Evaluator included in the survey analysis only eight responses submitted by students in Professor Wong's during class on November 30, 2015. The remaining 7 responses from Professor Wong's students were deleted.

**Survey participation rates:** Dr. Enriquez had 9 students enrolled. All completed the survey for a 100% completion rate. Professor Wong had 11 students enrolled. After the data cleaning, 8 surveys were used for the analysis, although one student only completed questions 1-21. The survey participation rate for Professor Wong's class was therefore 73% for the first 21 questions and 64% for the remaining part of the survey. When interpreting and comparing survey responses the reader should bear in mind that the students from Professor Wong's class who did not complete the survey in class may have different characteristics and perspectives than those whose responses were included in the survey analysis.

#### Key Findings

**Student Background:** The online students had a different profile than students in the FTF course who responded to the survey. The former were much less likely than the FTF students to be taking all their courses at Cañada College and although they had more semesters ahead of them before transfer than the FTF students they were more likely to have transfer plans in engineering. Additionally, the online students were more diverse in terms of whether and how much they worked and in terms of how much time they reported spending on the course/week. By contrast, the FTF students, with one exception, spent the same amount of time on the course each week, most of them did not work and only one of them worked more than 20 hours a week.

**Online Students' Preparation and Experience:** More than half of the online student reported enrolling because they wanted to take the course from Dr. Enriquez while one-third took the course because their schedules did not allow for them to take the class FTF. While one-third of the class had no previous online course taking experience, the students who had taken classes online in the past had a strong track record of completing these courses with a passing grade. All the students who had prior online experience found the class to be highly effective (5) or effective (1) compared to previous online courses they had taken. They attributed their satisfaction to the effectiveness of Dr. Enriquez and the resources he had developed for the course. The only major technical problem that several online students experienced concerned downloading SolidWorks.

**Course Resources:** The online and FTF students differed in their identification of most effective course resources. The online students gave the highest ratings to the video lectures and video tutorials and to emailing the instructor. The largest number of FTF students found the assistance from the tutors to be the most helpful followed by written lab handouts, emailing other students and in-class lectures. Students in the FTF course varied considerably in their assessment of the text book as a resource with some giving it the highest and some the lowest rating. Four students in the online course gave the text book the lowest possible rating of effectiveness. The online students differed in their assessment of the effectiveness of the tutors with three students giving this resource the two lowest and three others giving it the two highest ratings. The remaining online students identified the tutors as a non-applicable resource, probably because they lived too far away or could not make it to the college when the resource was available.

The online and FTF students also differed in their identification of resources they access when they have questions. The online students rated as their top sources emailing the instructor followed by office hours with the instructor. For the FTF students emailing the instructor was the option that was rated least likely by the largest number of students. The largest number of FTF students identified asking other students for help as their most likely course of action followed by consulting sources on their own.

The least likely course of action for online students was the forum. This was followed by bringing questions to the course tutors and asking other students for help – both of which may have received a low rating because of logistics in accessing the tutor and in not having the FTF interaction with other students.

Two thirds of the online students preferred Web Access compared to 43% of the FTF students. Only three online students reported using the forum and it was not clear from the responses whether the FTF students had access to or knowledge about the forum. In explaining their limited use of the forum, the online students noted that they preferred emailing the professor (3 responses) or liked to figure things out themselves (2). The FTF students – who may or may not have had access to the forum – exhibited a similar response pattern with two students noting they prefer emailing with their professor and another two stating they like to figure things out on their own. Interestingly though, several students from both classes expressed interest in expanding the use of the forum and proposed as strategies that the forum should be mandatory or that students should get points for postings.

**Lab Experience:** Students in both courses gave the lab experience high ratings for helping them understand the material. In the online course all students gave the labs the highest or second highest rating of effectiveness with two thirds assigning the labs the highest possible rating. The large majority of the FTF students also assigned high ratings to the overall lab experience but with more students giving the lab activities the second-highest rather than the highest rating for effectiveness.

In breaking down the overall assessment of the lab experience into more detailed impressions, a large majority of students in the online course “strongly agreed” to seeing connections between the lecture and the lab, to having sufficient guidance to do the labs, and to understanding the lab objectives before and at the end of the lab activities. Similarly, the majority of online students “strongly agreed” that the labs helped them understand concepts introduced in the videos/books as well as additional concepts not covered by these sources.

For the FTF students, a majority of students agreed with all these areas of inquiry, although the agreement was not as strong as was the case for the online students so that most students agreed rather than “strongly agreed” to seeing connections, having sufficient guidance, etc. Two of seven students in the FTF class indicated they did not have sufficient guidance on how to do the labs and that they did not understand the learning objectives for the lab before starting the lab activity.

In pointing to their favorite lab activity, four online and two FTF students identified the first SolidWorks lab.

Three of the online students, in explaining what was the most important thing they learned from the labs, spoke about the problem solving approaches they have learned and three referred to learning skills that are used by engineers. By contrast, and in response to the same question, the FTF students were more likely to point to their satisfaction with the software programs. The overall assessment of the lab experience from the majority of students in both courses was very positive with many students noting how satisfied they felt from having had the experience of designing something and using tools that “real engineers” use.

**Team Work:** For the team work assignments, the FTF students were, not surprisingly, more likely to meet in person than the online counterpart. In both courses several students identified as their number one take-away from the assignment improved communication skills. The online students’ assessments of how the group project contributed to their overall learning experience were more likely to point to an improved ability to learn from others and to understanding different ways to approach a problem. By contrast, the FTF students were more likely to point to time management skills and lessons on how to become more responsible. The FTF students were more likely to find as an obstacle to the team work difficulties understanding the assignment whereas the online students struggled mostly with finding time and scheduling problems.

**Overall Assessment and Ideas for Improvements:** In assessing what they liked best about the course, online students were more likely to mention how they had acquired useful and marketable skills while FTF students again pointed to the software.

In terms of ideas for improvements online students had few suggestions and mostly spoke of how much they enjoyed the course. One student did express a desire for less work and two others proposed more hands-on projects and increased interaction with other students. Among the FTF students, two respondents proposed more interaction during lectures. One student simply stated that “this is a class worth taking. “

Overall there was a high level of satisfaction with the class among the survey respondents. However, in expressing their opinions, students in the online course were much more likely than those in the FTF course to assign the highest ratings of satisfaction to their responses. This pattern was observed across the survey and ranged from responses about which resources students preferred and their problem solving strategies to questions about what the students thought about the lab activities.

The online students’ input suggests that they were guided more than the FTF students to think about the course in terms of how they could learn marketable skills and how what they learned in the classroom applied in the real world. The online students’ assessment of their team assignments also suggest they might have been guided more to approaching the task from the perspective of what they might be able to learn from others.

The online students were unanimous in terms of pointing to the instructor as a key source of support and even inspiration. While this is very positive, the students’ reliance on the instructor as a go-to source for help indicates that alternative sources of support should be highlighted in order for scaling to become feasible.

Detailed Summary of Survey Responses and Selected Student Quotes

	<b>Online (9 responses – 100% response rate)</b>	<b>Class room (8 responses – xx% response rate)</b>
<b>Background</b>		
#4 Cañada enrollment status	11% (1) all courses at Cañada 44% (4) some at Cañada, some other colleges 44% (4) only course at Cañada	75% (6) all courses at Cañada 25% (2) some at Cañada, some other colleges
#5 Enrollment by units current semester (incl. Eng. Graphics)	Range: [4, 24] Average:14 units	Range: [12,19] Average:14 units
#6 Transfer plans	89%(8)-Transfer to pursue a baccalaureate degree in engineering 11%(1)-Not sure	50.00% (4)-Transfer to pursue a baccalaureate degree in engineering 50.00%(4)-Not sure
#7 Estimated semesters to transfer (incl. Fall 2015)	Range: [1,10] Average:6 semesters	Range: [0,6] Average:3 semesters

#8 Visits to intended transfer institution	33%(3)-Yes 67%(6)-No	25%(2)-Yes 75%(6)-No
#9 Internship/job experience related to engineering	22%(2)-Yes 78%(7)-No	13%(1)-Yes 88%(7)-No
#10 hours/week working	Range: [0,48] Average:21 hours Very unevenly distributed – 3 students worked 0-6 hours/week; 3 worked 17-20 hours/week; 2 reported working 40 and 48 hours/week	Range: [0,27] Average:6 hours 5 students did not work. 1 student worked 20-35 hours/week; 1 student worked 6 hours/week and 1 student 15 hours/week
#11 Perception of whether life organized to leave time to study	22%(2)-Completely agree 33%(3)-Agree 22%(2)-Neutral 11%(1)-Disagree 11%(1)-Completely disagree  More than half of the students agreed or completely agreed that they had adequate time to study. Two students (22%) reported not having enough time to study.	13%(1)-Completely agree 38%(3)-Agree 38%(3)-Neutral 13%(1)-Disagree  Half of the students agreed or completely agreed that they had adequate time to study. One student reported not having enough time.
#12 Estimated # hours spend on Eng Graphics/week	Range: [5,20] Average:10.78 4 students reported spending under 10 hours/week on the class; 4 reported spending 10-15 hours/week on the class; 1 reported 20 hours/week	Range: [10,22] Average:12.38 7 students reported spending 10-12 hours/week on the class; 1 student reported spending 22 hours/week on the class
<b>On-line student questions</b>		
#14 Reason for taking course online	56%(5)-I wanted to take the class from Dr. Enriquez 33%(3)-Class scheduling conflict so I could not take the face-to-face class 11% (1) – live too far away  More than half of the respondents (56%) said they took the class because of the instructor, Dr.	

	Enriquez. One third took the class online because their schedule did not allow them to take the FTF class. One student lives too far away to take the FTF class	
#15 & #16 Online experience (# courses taken before Eng. Graphics and track record of completing these courses with a passing grade)	<p>One third of the students (3) had not taken online courses before. Two students had taken one online course before. Three students had taken 2-4 online courses before, and one student had taken more than 5 such courses.</p> <p>The students who had taken classes online in the past had a strong track record of completing these courses with a passing grade. Three students had completed one or two online courses with a passing grade. Two students had completed 4 or 5 online courses with passing grades.</p>	
#17 Assessment of relative effectiveness of Eng Graphics	Among the six students with previous online experience, five found the class to be “very effective” and one found it to be “effective” compared to other online courses.	
#18 What makes Eng Graphics an effective course?	<p>Three students attributed the effectiveness of the course to Dr. Enriquez and to resources he has created for the course. “Dr. E is very involved with students and replies to emails within minutes so it feels like it is in-person.”</p> <p>Another student noted: “Dr. E has great videos explaining how the stuff works.” Two students highlighted the flexibility. One of them pointed out that: “the quality of the lecture videos and guides helps them understand everything rather than being in class.”</p>	
#19 Problems encountered	<ul style="list-style-type: none"> <li>Nobody had problems with Web Access, joining online office hours or following the pencil/pointer in the videos (suggesting that an</li> </ul>	

	<p>interviewee who reported this problem must have found a way to resolve their difficulties)</p> <ul style="list-style-type: none"> <li>• One student reported experiencing problems with AutoCAD.</li> <li>• Four students had trouble downloading SolidWorks, including the student who submitted the following comment:</li> </ul> <p>One student explained the problem they had experienced using SolidWorks on a Mac: <i>“I wish there was an in-depth tutorial for making SolidWorks more accessible to Mac users. I was misinformed that it won't work with Mac with complete certainty, but I was able to install/partition the Windows software through Bootcamp on my Macbook, then install and use SolidWorks from there. Had I not figured this out by luck, I would have most likely driven to school just to use the computers there with the program, which defeats the purpose of taking the class online. Or, I would have most likely purchased another computer, which would have been a complete waste.”</i></p>	
<p><b>#20 Use of Course Resources</b></p>	<p>The resources that received the highest ratings from the largest number of students were video lectures, video tutorials and emailing the instructor. 100% of students gave these three course resources a 4 or a 5 (with “5” being most useful): In second place with 6 of 9 students giving the resources a 4 or 5 rating were: lecture notes and office hours with the instructor.</p> <p>The online students found the following resources least helpful: textbook, email or other assistance from tutors, and email with other students. Among the lowest rated resources, four students</p>	<p>FTF students found the assistance from the tutors the most helpful with 7 of 8 respondents giving this resource a “4” or “5” rating. The second highest rating was given to written lab handouts (four students rated this a “4” and two a “5”)</p> <p>Five students gave a “4” or a “5” rating to emailing with other students and in class lectures.</p> <p>Four students gave the text book the highest rating of 5 while 3 other students gave this resource the lowest rating of a “1” or a “2.”</p>

	gave the text book the lowest rating possible (of "1")	Two students gave emailing the instructor the lowest rating.
#21 Reason highest ranked resources effective	<p>Three students referred to their online or office hour contact with Dr. Enriquez as being most helpful because "Dr. E is great at explaining the content," and "Dr. E. is clear and very helpful." One student summed it up by stating that "Dr. E. is really good at begin a professor."</p> <p>The lecture videos were mentioned three times. Students said that "watching the videos lets me see the problems get accomplished with the instructor reasoning and explanation behind it versus trying to figure out things from text." Students also referred to their ability to rewind portions of the videos. Two students specifically mentioned the tutorial videos as being helpful for becoming "unstuck."</p>	Two students noted that the lecture notes help them prepare for tests. Two students mentioned help they are getting from the tutors who "know the labs and homework." Two students said they learned most from being able to ask the teacher questions during office hours. "In class lectures are pretty good, however having the professor there to explain them is better." Another student commented that "Asking one-on-one with the teacher was the highest rating because I understood a lot better then, I asked a lot of questions. One student said they received the most help from other students, but that the teacher provided "a good amount of help" on the final project.
<b>Problem solving strategy</b>		<i>From this point the participation rate in the survey decreased to 64% with 7 of 11 students responding</i>
#22 What do you do when you have questions?	<p>The largest number of students identified as their most likely course of action to resolve a question emailing their instructor – with 5 students giving this a "5" and 2 a "4" rating.</p> <p>Five students identified brining the question to the next office hour with the instructor as their most likely course of action (four gave this a "5" rating and one student a "4" rating)</p> <p>The least likely course of action for the largest number of online students was posting the question on the forum with 6 students identifying this as the least likely course of action (with a "1" rating). Five students identified bringing the</p>	<p>The largest number of students identified asking other students as their most likely course of action followed by consulting sources on their own.</p> <p>The least likely option for the largest number of FTF students were emailing the professor and posting the question on forum.</p>



	question to the course tutor and asking other students as among their least likely options.	
<b>Use of technology and online resources</b>		
#23 Technology preferences	67%(6)-Web Access 33%(3)-Facebook	43%(3)-Web Access 29%(2)-Google+ 29%(2)-Other
#24 Use of forum	33%(3)-Yes 67%(6)-No	57%(4)-No 43% (3)-My class does not have a forum
#25 Reason for limited use of forum	33.33%(3)-My professor is available to answer questions by email, so there is no need to go to the forum 33%(3)-Time management -- I only start the problems right before they are due 22%(2)-I like to figure things out myself 11%(1)-Other	14%(1)-I don't want everyone to see my questions 29%(2)-My professor is available to answer questions by email, so there is no need to go to the forum 29%(2)-I like to figure things out myself 29%(2)-Other
#26 Ideas for increasing forum use	<p>Three students suggested making use of the forum mandatory and two of them proposed that students should get points for posting on the forum.</p> <p>One student said that they would post if others posted.</p> <p>Another student proposed a forum outside Web Access (see below)</p> <p><i>In my opinion, it should be mandatory to post something in the Q&amp;A forum to help students get acquainted with other people in the class. Also, this will help student to get to know other students if there's a project involved.</i></p> <p><i>Maybe have a "forum" outside WebAccess. Perhaps we can have a Google Hangouts group which is directly accessible from all students' smccd email account (since it is run by Google).</i></p>	<p>Professor Wong's students did not seem to have access to a forum. Three students indicated they would like to have such a resource:</p> <p><i>If we had a forum, required posting on homework assignments and labs would encourage my participation</i></p> <p><i>Make participation grade based.</i></p>

	<i>Google Hangouts is easy and people are more likely to use it because it's right there in the sidebar when you log into Gmail.</i>	
<b>Lab experience</b>		
#27 Assessment of overall impact in terms of understanding material	Six students (67%) indicated that the labs were extremely helpful in terms of helping them understand the class material. The remaining 3 students (33%) gave the labs the second highest rating - a "4" on a scale from 1-5 where "5" is "extremely helpful."	Two students (29% felt the labs were extremely helpful in terms of helping them understand the class material. More than half of the respondents (57% or 4 students) gave the labs the second highest rating - a "4" on a scale from 1-5 where "5" is "extremely helpful." One student rated the lab work a "3" in terms of being helpful in understanding the material.
#28 Favorite lab and #29 Liked best about favorite lab	<p>Four students pointed to "The first SolidWorks lab" and two to "3D modeling. They said that the lab "provide knowledge of different tools we could use in school and in the workplace," and that "I felt I had accomplished a real engineering task."</p> <p>Two students said they could not decide. "I liked all of them," one student noted. Another write:" Each lab made me understand how fun it is to create a simple model from scratch."</p> <p>One student said about Lab #18 that "I used everything that I've learned from the previous labs to complete it."</p>	<p>Two students pointed to "SolidWorks" noting it was easier than AutoCAD.</p> <p>Three students identified their favorite lab by number: #12, #16 and #18.</p> <p>One student said that "it was cool to make hard 3D objects."</p>
#30 Connection btw lecture and lab	<p>More than 78% (7) of students strongly agreed and 12% (2) of students agreed:</p> <ul style="list-style-type: none"> <li>to finding a strong connection btw lecture and lab</li> <li>they had sufficient guidance to do the lab</li> <li>doing the labs taught them additional skills and concept not covered otherwise</li> </ul> <p>67% (6) of students strongly agreed and the remaining one-third (3) agreed:</p> <ul style="list-style-type: none"> <li>they understood learning objectives at the conclusion of labs</li> </ul>	<p>No students strongly agreed, but 86% (6) students agreed to finding a strong connection btw lecture and lab and to understanding the learning objectives for the lab at the conclusion of the lab. One student strongly agreed to understanding the learning objectives at the conclusion of the lab.</p> <p>Five students (71%) agreed and two (29%) disagreed that they had sufficient guidance on how to do the labs</p>

	<ul style="list-style-type: none"> <li>that doing the labs helped them understand the learning objectives at the beginning of the lab activities; 1 student was undecided and 1 disagreed.</li> </ul>	<p>Three students (43%) agreed and one strongly agreed that they understood the learning objectives before the lab. Two students disagreed and one was undecided.</p> <p>Two students strongly agreed and four agreed that the labs made them understand the concepts introduced in the videos/classroom and three strongly agreed and three agreed that the labs taught additional skills and concepts not otherwise covered.</p> <p>One student was undecided about these two statements.</p>
<b>Group Project Experience</b>		
#31 Engagement with team mates on group projects	<p>4 students indicated they meet in person and supplement these interactions with electronic communication. The other 5 students use google docs and email as well as Skype.</p> <p><i>We have an I-message group chat, and use google docs and email</i></p> <p><i>We do a group text where we collaborate on how things will get done. For written assignments, we would use google to edit documents online, and we would e-mail sketch designs to one another.</i></p>	<p>Students described meeting in person supplementing these meetings with electronic communication. One student spoke of scheduling problems and relying on Skype.</p> <p>Two students added to their description of how they meet, satisfaction with the opportunity to work with other students.</p> <p><i>I like the project because we get a taste of what we will get to do as engineers in the future</i></p> <p><i>In our group project we met a lot of times, and when we couldn't meet we communicated online. We used Facebook, texting and sometimes email.</i></p>
#32 Group project's contribution to overall learning experience	<p>Two students had improved their communication skills and their ability to work with others. Two students referred to learning from their team members' different ways to approach a problem. One student felt that they had become more creative from working with the group. Two students felt the group work helped them stay on track and overcome obstacles. One student said</p>	<p>Three respondents said they had improved their ability to work in teams and communicate effectively. Three students spoke of learning time management, logistics and how to be more responsible. One students had learned that "the only way to get a job done is to do it yourself or take leadership."</p>

	<p>that the group work helped them learn that you can work in a team without meeting in person.</p> <p><i>We thought of things together that we wouldn't have thought of individually. For example, we were struggling to come up with individual ideas and then when we Skyped we had a series of aha moments that led to our current plan, which is going well. I usually don't like group projects so much but this experience actually has been very rewarding for several reasons: (1) I realize how useful group discourse can be to come up with ideas. (Like I said, I'm used to figuring things out on my own.) (2) Since we have deadlines every few days, we have to stay on track and keep with a timeline so we don't fall behind and end up cramming the project last minute. This feels really rewarding all the way through</i></p>	
#33 Challenges encountered with group project	<p>Most respondents (5) cited lack of time as a major challenge. Several (3) referred to different schedules and living far apart and being unable to meet in person. One person suggested that the assignment be made at the beginning of class to give them more time.</p> <p><i>One of the biggest challenges I've encountered with the group project is the fact that we have little time to finish it. I wish it was given to us at the beginning of the semester to give us a clue about the project. I honestly believe that if given more time, we can come up with better ideas for the project.</i></p>	<p>Five respondents referred to difficulties they experienced understanding or responding to what was required and deciding how to divide up the assignments. One student complained about an uneven distribution of work.</p> <p><i>I was completely lost at first since I didn't know how to get started. But later as I began to ask the professor I was able to get the hang of it and caught up on the work that I had not finished.</i></p> <p><i>Lack of a willingness or motivation to contribute - uneven distribution of work</i></p>
<b>Overall impressions</b>		
Liked best	Five students spoke of how the class taught them useful and marketable skills such as how to design things and work with programs and tools	Four students liked to learn the software, one student identified the labs as their favorite thing and one "liked to design something."

	<p>that they will use in the future. One student spoke highly of the videos. One student said the class promoted creativity and one student mentioned the instructor.</p> <p><i>It feels great to have the skills to graphically enrich my research and communicate my ideas. I thought it would be a painful learning curve but it was not. I've been having a lot of fun!</i></p> <p><i>I like how this class gave me information on how to use tools I will most likely use in the future (AutoCAD, SolidWorks, etc.)</i></p>	<p><i>I really like learning the software. I think it is helping me build a solid foundation in CAD programs.</i></p>
#35 Most important thing learned from labs	<p>Three students referred to the problem solving approaches they had learned. Three students referred to learning very useful skills, including programs used by engineers. Two students said they had learned so much they could not point to one thing.</p> <p><i>The most important thing I learned from the labs are learning how to do the technical side of designing, and actually knowing how to use the programs that engineers use to make designs.</i></p>	<p>Five students identified the software programs they learned how to use as the most important take-away. Two students spoke of learning time management in relationship to project planning and implementation. Two students referred to the labs as the venue where they learned the most.</p> <p><i>Mostly about how to design something using computer. The labs are building my solid foundation in CAD.</i></p> <p><i>I've learned to not underestimate how long an assignment will take</i></p> <p><i>I learned that I had fun making parts in auto cad and making 3D-Objects as well.</i></p>
Ideas for improvements	<p>One student wanted less work. One proposed working on hands-on projects and one wanted more interaction with other students. Three students could not think of anything except for "ice cream." One referred to a software problem that could be corrected (see below). One student spoke about the great skills that Dr. E teaches (see below).</p>	<p>Two students suggested more interaction during lectures. One student felt that having two programs (SolidWorks and Auto CAD) was too much. One student would like to have the group project be more hands-on. One student proposed using a 3D printer. One student said that "<i>this is a class worth taking.</i>"</p>

	<p><i>Students all over the world should be taking this course as offered by Dr. E. They would be happier and we'd have engineers who are more effective communicators and methodical problem solvers</i></p> <p><i>One thing that I hated was the labs used instructions using the older versions of AutoCad that simply didn't apply to the newer versions, so I spent a lot of time trying to figure out what the instructions were talking about</i></p>	<p><i>Interactive lecture sessions and demonstrations of lecture notes in the software program. I think watching someone go through the steps is the most helpful.</i></p> <p><i>Having more interaction with the lectures such as solving a problem on the board in order to clear up any confusion.</i></p>
Additional comments/ideas	<p><i>I liked attending the STEM speakers to earn credit for the class. It was something that was enjoyable to attend because you get to listen to other people in similar fields and their experiences.</i></p> <p><i>I really hope more students will have access to Dr. E's online engineering graphics course.</i></p>	