**EE400D (Teaching Engineering): Classroom Observation**

Faculty/Instructor: Payman Arabshahi Date/Time of Observation: 10/25/2019

Observer: Filip Tomczak

Course Number (Course Title): Engineering Entrepreneurial Systems and Design

Format Observed (Lecture, Lab, Quiz Section): Lecture

Number of Students Enrolled: 71

Number of Students Attending: 59 (peak, some students were in and out)

**Instructions**

*This observation worksheet contains both close-ended (Likert Scale) questions and open-ended (descriptive) questions regarding what the instructor is doing during the observed time period (session) and what the students are doing. Not all behaviors or activities are covered in the close-ended questions; those activities that are not included in the close-ended questions can be integrated into the open-ended questions. Please highlight your answers in a different, but legible color, minimize white space, and provide clean and consistent formatted in the completed observation.*

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| --- | --- | --- | --- | --- |
| During the Observed Session: | Not at All | Somewhat | Satisfactory | Outstanding |
| The instructor provides objectives for the class session (written, verbal, or both). |  | X |  |  |
| The instructor relates the session content to learning outcomes for the course. |  |  | X |  |
| The instructor uses visual aids that are clear, organized, and relevant. |  |  | X |  |
| The instructor uses practical, “real-world” examples to support teaching. |  |  |  | X |
| The instructor refers to the relevant portions of the textbook, reading, or other supplement. | X |  |  |  |
| The instructor uses humor effectively to promote student engagement and rapport. |  |  | X |  |
| The instructor answers questions well and demonstrates knowledge of the subject. |  |  |  | X |
| The instructor shows clear interest or enthusiasm in teaching. |  |  |  | X |
| The instructor uses student names. | X |  |  |  |
| The instructor asks specific questions. |  |  |  | X |
| The instructor pauses after asking a question. |  |  | X |  |
| The instructor asks questions of students that result in responses from students. |  | X |  |  |
| The instructor changes gears periodically from one style of teaching to another. | X |  |  |  |
| The instructor engages students periodically through think/pair/share, problem solving, or other active learning exercises. | X |  |  |  |
| The instructor uses guided notes. | X |  |  |  |
| The instructor involves students periodically in what is to be covered during the session. | X |  |  |  |

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| --- | --- | --- | --- | --- |
| During the Observed Session: | Not at All | Somewhat | Satisfactory | Outstanding |
| The instructor uses more than one way to explain problems or concepts. |  |  | X |  |
| The opening of the class session gets students’ attention. |  | X |  |  |
| The instructor provides a summary of what has been covered and accomplished at the end of the observed session. | X |  |  |  |
| The instructor provides a preview of the next session or ideas of what to consider for the next class at the end of the observed session. |  | X |  |  |
| The instructor could be easily heard. |  |  | X |  |
| The instructor moves around in the classroom and refrains from standing/sitting in one place. |  |  | X |  |
| The instructor uses analogies or metaphors to relate the concepts to students’ experience. |  |  | X |  |
| The instructor emphasizes key points throughout the observed session. | X |  |  |  |
| The instructor makes eye contact with students. |  |  | X |  |
| The instructor uses open (not closed) body language during the observed session. |  |  |  | X |
| The instructor engages in behaviors that develop rapport and trust with the students. |  |  |  | X |
| The instructor relates the material/concepts to personal or societal concerns. |  |  |  | X |
| The instructor is available before class. |  |  |  | X |
| The instructor is available after class. |  |  |  | X |

What types of visual aids (dry-erase board, chalkboard, powerpoint, etc) does the instructor use during the observed session? How are these visual aids used?

The instructor used 3 different PowerPoint presentation, that he used as a background to what he was talking about. Some of the slides were very information-heavy, which was a little bit distracting. Sometimes it seemed like he talked about less things that there were on the slides. At one point he skipped a fair chunk of slides as they were tailored for PhD students. That could’ve been easily avoided by taking them out beforehand.

In your opinion, what was the best/most effective teaching moment observed in this session?

Given that the class teaches about system engineering capstone, the requirements are a major part of that project. The teachers explanation on the requirements seemed very detailed, and had a logical aspect as to what order he talked about it. Seemed like it’d be very helpful to the captstone itself.

In your opinion, what was the most unique teaching moment observed in this session?

Towards the end of the lecture the professor started talking about reverse engineering. He gave two extremely good examples that I found unique, as most professors examples are rather short. He spent about 5-7 minutes talking about two reverse engineering cases by US Air Force during WWII and by some company in Sacramento that had to reverse engineer the F-16 plane. It was interesting and very detailed.

In an organized paragraph with complete sentences, describe what the instructor did throughout the session (150-250 words).

The class took place a day after different companies presented their proposed capstone projects to the students interested in taking the Entrepreneurial Capstone in the next two quarters. The professor started the lecture going over each project, telling students what they can expect from each. He spent ~2-3 minutes on the project, but given the amount of them it took about 50 minutes, before he started the actual lecture. When he did, he jumped straight to talking about “monitoring requirements” which seemed like a continuation of the previous lecture, but he didn’t explicitly say that it was. He then started describing how to construct and group requirements so that they are logical and easy to follow later on in the project. He skipped some slides, as apparently it was PhD material, that was a bit distracting. Next, the professor described how to write requirements, using specific terms, focusing on good grammar and vocabulary, so that the requirements are clear and verifiable, which he emphasized was extremely important. He also showed a loop on how to validate the requirements, which was a good visualization of the concepts. The professor then reviewed the process of creating requirements “closing the circle” on that part of the course, everything seemed tied together. Next he gave an example from NASA on how that process was done, which was a great example relative to the outcomes of the course, and using it he mentioned that requirements are somewhat volatile, due to various reasons that come up during projects. Next he very briefly mentioned where they are relative to the whole course, and where they are going next. Then he started talking about the architecture of system engineering, and compared it to building/civil architecture, which was a good metaphor, and introduction to an example of actual system engineering architecture. The professor then showed a graphical example on how to architect systems, and gave two very detailed examples of reverse engineering. Briefly mentioned “concept” and how it relates to architecture, but he had to end the class so he briefly mentioned what’s coming up. After the lecture he talked to some students that came up to him, and even left the building still talking to a student.

Overall, I thought the lecturer did a great job explaining the topics to the students and it was very clear how what he talked about was related to this class and how it will help the students with their capstone projects. I also felt bad for him as the audience was absolutely awful.

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| --- | --- | --- | --- | --- | --- |
| During the Observed Session: | None | Few | Some | Many | Most |
| Students maintain attention toward the instructor (for example – eye contact). |  |  | X |  |  |
| Students remain awake and alert during the observed session. |  |  |  |  | X |
| Students are using their cell phones or other electronic devices in activities unrelated to class. |  |  |  | X |  |
| Students are over one minute late to class. |  |  |  | X |  |
| Students pack up early at the end of class. |  | X |  |  |  |
| Students are reading the newspaper or doing other non-electronic activities unrelated to class. |  | X |  |  |  |
| Students interact with the instructor before class. | X |  |  |  |  |
| Students interact with the instructor after class. |  |  |  |  |  |
| Students initiate questions. |  | X |  |  |  |
| Students respond to questions posed by the instructor. |  | X |  |  |  |
| Students ask follow up questions. |  | X |  |  |  |
| Students participate in class when asked to do so by the instructor. | X |  |  |  |  |
| Students are taking notes. |  | X |  |  |  |

In your opinion, how would you best describe students’ interest in the observed session?

There were some students that were listening closely all the time, clearly interested in what the professor was talking about. The majority of the students, however, were doing homework, surfing the web, talking to each other. I found that to be quite disrespectful. I couldn’t understand why they were in class if they clearly were doing other stuff. What’s more surprising is that this class is an introduction to arguably the most important class of their undergraduate career, so they just kind of wasted time and money.

In your opinion, how would you best describe students’ affect (emotion) in the observed session?

One guy was straight up sleeping, and a lot of students were busy doing other stuff, so in general they looked bored, and as if they were in class just because they had to even though there was no participation-based credit. There were some students that were clearly engaged in the class, but that was a minority.

In an organized paragraph with complete sentences, describe what the students were doing during the observed session (150-250 words).

By the time the class started most people were in the room. All but 4 people had their laptops in front of them, and since I didn’t know the class structure, I was expecting all of them to be using guided notes or to be taking notes by themselves. To my surprise almost nobody out of the people that had their laptops out was focusing on the lecture. They were surfing the web, doing homework (most likely for other classes), and some people were even figuring out classes they should take next quarter. I counted 16(!) people that came to class over a minute late, with two students coming in after 50(!!!!!) minutes out of the 1.5 hour lecture. Some people left the class VERY early: 1 student after 30 minutes and another 2 after 50 minutes. I was absolutely shocked. I thought that the people that were not focused on class were only doing it because the professor was talking about projects they might’ve seen the day before at the actual expo. However, when the professor started the actual lecture not much changed. There were maybe 15 students that were engaged in the lecture, interested in what the lecturer had to say. Some of the people that were paying attention asked questions, but there were not more than 10 questions throughout the session. The professor only asked about 2 or 3 questions, each being answered by a different student (of course from those that were paying attention). The people that stayed in class till the end, actually waited for the professor to finish up before packing and leaving. After the session, about 5 people came up to the lecturer to talk to him.

Overall, I was extremely disappointed in the students at this lecture. Even though this class has more of an “info session” feeling to it, the audience was extremely disrespectful and I have no idea why they bothered showing up as they were clearly not interested in the session’s matter.

Are there any items that you believe should be added to this classroom observations worksheet? If so, please describe.

I know my lecturer description is a bit lengthy, but the teacher talked about a lot of different things and I thought he did it in a very good way. I thought it was important to mention all of it.