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

Faculty/Instructor: Arka Majumdar Date/Time of Observation: 11/1/19

Observer: Filip Tomczak

Course Number (Course Title): PHYS 123

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

Number of Students Enrolled: 160 Number of Students Attending: 145

**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 professor used a tablet to display powerpoint slides. He also wrote on them when he found it necessary. The slides included graphics and text straight from the textbook. He also used the laser pointer to highlight important information on the slides or to talk about the diagrams.

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

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

Having taken the physics series nothing seemed extremely unique. However, relative to the other courses I’ve taken the most unique thing about Physics classes is the amount of in-class “quizzes” the students have to take. About every 5-7 minutes the teacher introduces a new concept and the proceeds to ask students at least one question (often two) about the application of the concept. By doing that he can grade attendance and make students actively participate in the lecture. I also think it’s the most effective way to teach physics. The concepts are usually rather challenging for the students so giving the definitions isn’t helpful unless the students can see how the concepts are applied in problems.

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

The lecturer started the session by telling the students which chapter of the textbook they are covering today and what chapter they will cover next week. Then he spent about 3 minutes recapping the last few topics and concepts they discussed during the last few class sessions. One of the students asked him earlier in the week why they care about certain topic, so the professor explained it to the whole class. Then he told the students what specifically they will cover in today’s class. He started by giving the students the first “quiz” using the learning catalytics platform. The professor asked students to talk to their neighbor, and gave them about 2 minutes to submit the answer. Afterwards he explained the answer to the students. Next, he introduced a new topic – photons. The slide contained a rather short definition, so the professor talked about it for about 30 seconds and proceeded to the next quiz. The rest of the class had a very similar structure: the professor would introduce a concept, and ask students 1 or 2 questions about it. He always wanted the student to solve them in pairs, and usually majority of the students answered correctly. Depending on the problem difficulty he’d discuss it with more or less detail before asking students to actually answer it. He also talked about how CDs and BluRay discs work, giving the students a good example of what they are studying. He also spent about 5 minutes drawing a diagram to show how a difficult looking formula isn’t as difficult. He ended the class with a short experiment that served as an introduction to the next lecture.

Having taken those classes before with a different teacher, I believe the physics department asks its professors to run lectures in a similar way. It’s a very conceptual class, so I believe introducing a concept briefly and asking some questions about how to apply the concept is a good way to teach those topics. Overall I think the teacher does a good job at teaching the material.

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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. |  | X |  |  |  |
| 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?

This being a lecture on a Friday after Halloween the students felt surprisingly interested. The majority of them were actively listening, but it felt like they were listening to pass the quiz that was always around the corner. It felt like they were always just waiting for the quiz.

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

Again, with the amount of short quizzes the students seemed rather bored in between the quizzes and became significantly more active every time the quiz was available. They would discuss it with the neighbors and then go back to being rather bored.

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

The majority of the students arrived in the class early, with some even waiting in front of the classroom for the previous class to leave. Once the students got into the room they quickly took out their laptops and notebooks in preparation for the class. The class filled out by the time the session started, with only about 5 people arriving late. It took about 30 seconds for everybody to quiet down once the professor started the lecture. Since the quizzes are online, almost every student had their laptop open throughout the session. I could see that some people were only waiting for the quizzes to become available as they were not as focused when the professor was speaking, and doing other things on their computers. However, the majority of the students looked rather interested in what the lecturer was saying. When prompted to discuss the quiz problems with their neighbors, the students started doing just that and the classroom became significantly more noisy. This being a Friday class, most people started packing about a minute before the class ended (at about the same time the professor started doing the experiment).

Overall, I think the students understand the intellectual challenge in the class, and due to that they were rather focused on the session’s matter. However, I did have the feeling that a lot of people wouldn’t be there if it wasn’t for the quizzes (attendance), and that they cared about the quizzes more than the lecture itself.

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