

EE400D (Teaching Engineering): Classroom Observation

Faculty/Instructor: Maryam Fazel

Date/Time of Observation: 11-20-19

Observer: Victor Cannestro

Course Number (Course Title): ECE 235 Continuous Time Linear Systems

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

Number of Students Enrolled: 91

Number of Students Attending: 80 = 63 + 17 late

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.

<i>During the Observed Session:</i>	<i>Not at All</i>	<i>Somewhat</i>	<i>Satisfactory</i>	<i>Outstanding</i>
The instructor provides objectives for the class session (written, verbal, or both).		X (There was a promise of some applications)		
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 (Nice slides)
The instructor uses practical, "real-world" examples to support teaching.				X (Many examples were discussed)
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 (Succinct and clear answers given)
The instructor shows clear interest or enthusiasm in teaching.			X (Enthusiastic face and clearly interested teaching, but she	

			seemed rushed and was monotone often)	
The instructor uses student names.	X			
The instructor asks specific questions.			X (1-2 specific questions asked)	
The instructor pauses after asking a question.		X (For about 2 seconds)		
The instructor asks questions of students that result in responses from students.			X (Greater than 2 responded)	
The instructor changes gears periodically from one style of teaching to another.		X (Changed from notes to PowerPoint)		
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			

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 (students talked until notes were being written)		
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 (Moved from podium to the	

			backdrop nearby)	
The instructor uses analogies or metaphors to relate the concepts to students' experience.			X (One nice analogy given)	
The instructor emphasizes key points throughout the observed session.		X (Not done in the examples, but at the end AM modulation was motivated well)		
The instructor makes eye contact with students.		X (Less than half of the time)		
The instructor uses open (not closed) body language during the observed session.		X (Lots of closed body language observed)		
The instructor engages in behaviors that develop rapport and trust with the students.		X (She displayed intelligence and quickness, but didn't interact much with the students)		
The instructor relates the material/concepts to personal or societal concerns.				X (Many of such relations given)
The instructor is available before class.				X (>5min)
The instructor is available after class.				X (>5min)

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?

An iPad was used for its screensharing capabilities and digital notetaking applications. These detailed notes were projected onto a large backdrop and additional TV screens. PowerPoint was used in the second part of the session to display applications, graphs, and system diagrams with some equations.

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

The most effective teaching moment occurred when the instructor went through questions students had asked her before class. It clarified multiple points of confusion and brought about some discussion on what students should be expected to do on the homework.

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

The most unique teaching moment was when the instructor changed styles from handwritten notes to PowerPoint in order to show graphs and applications.

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

The instructor arrived around 10 minutes early and spent most of the time before class answering 2 students' questions in depth on the board. She then spent the first 5 minutes of class explaining the questions to class. A student asked a question and she said, "We'll see that later with Laplace" giving more details and clarifying what is needed for the homework. She wrote on a tablet and shared her screen to the classroom projector. She previewed that today's content has applications in communications and said specific instances will be coming up. She used notes that already had definitions and examples and annotated them with remarks, interpretations, or additional examples. She asked, "Does that make sense," paused for about 2 seconds, and mentioned the benefits of drawing out the convolutions to get a better idea of what's happening. She walked up to the backdrop and gestured to the drawing she was talking about. She asked, "Do you think we can recover the original?" She then said, "Do we need to anything else? There's extra information." She stopped after catching a mistake in the magnitude and backtracked to correct it. She then explained in detail what subtlety had happened to introduce the mistake. Her posture and body language were somewhat closed: there was much time spent looking down at her technology in order to write the notes or the board; hands clasped to an electric pencil at least 10 times. She moved from the podium to the backdrop a few times, but her back was to half of the room.

Then she asked a rhetorical question, "How is the material useful?" and switched over to PowerPoint slides that contained text explaining applications at a high level. She made an analogy about the problem of sending signals in a crowded channel through people trying to converse in a room. Different color fonts were used to indicate important frequency ranges or the name of an application. Some slides had graphs while others had system diagrams with some equations and she verbally walked through them. Different AM modulation techniques were described, along with a real-world application (public broadcasting, satellite communication, and a demodulation circuit). Then she asked, "Any questions so far?" She moved on and the slides included many system diagrams. As they left, she wished them luck on their midterm. She talked with students afterwards about 10 minutes.

Overall, the instructor displayed top notch expertise in the material, organization, and availability, but undermined her teaching somewhat by the fast pace, multiple instances of closed body language, and lack of student engagement. The presentation of the material was fluid and confident, but couldn't surpass the dryness of the content, which was reflected in the student's behavior.

During the Observed Session:

	<i>None</i> (0%)	<i>Few</i>	<i>Some</i>	<i>Many</i>	<i>Most</i> (> 50%)
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 (20%)	
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 (2 students)			
Students interact with the instructor after class.			X (about 7 students)		
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?

Students were far more engaged during the first part of the session when the instructor was writing the material in real-time. When the content was entirely available on the slides, most students stopped taking notes and were marginally engaged.

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

Students were initially awake and alert but turned to boredom and flat affect by the time class reached its midway point. This was evident from expressions, slouched postures, engagement with distractions, and less eye contact.

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

Two students walked up and asked several questions to the instructor before lecture started. The moment lecture began another student asked a question about the homework. A few students were talking in the back, but by the time she started the session's material they were silent. Students looked awake and alert and most were taking notes. Within 10 minutes about 3 students were texting. After being asked if the original signal can be recovered in an example some students answered. After being given more information, the same students suggested filtering. When the instructor noticed a small mistake in the magnitude, one student contested, suggesting that it was okay.

When the content delivery vehicle switched from projected notes to PowerPoint only some of the students were taking notes. Many were hunched to one side or spread out in their seats with their arms crossed. At least 10 were distracted on their phones. Two students left 10 minutes early. When

asked if they had any questions the students were silent and one left 5 minutes early. When the instructor moved on to the next topic, another student left, 3 minutes early, and some other packed up early. Students left promptly at 11:20am as the last topic was being discussed. About 7 students stayed to ask her questions.

Overall, students were far more engaged during the first part of the session when the instructor was writing the material in real-time—they didn't have immediate access to the information. When the content was entirely available on the slides, most students became passive. Those that already weren't paying attention were checked out or packing up

<i>During the Observed Session:</i>	<i>Not at All</i>	<i>Somewhat</i>	<i>Satisfactory</i>	<i>Outstanding</i>
The instructor provides objectives for the class session (written, verbal, or both).	Briefly mentions how the content will be helpful in the future	The instructor gives a clear explanation on how the session content relates to specific learning outcomes	The instructor gives a clear explanation of why they've done what they've done so far and how the current session's content relates to specific learning outcomes	Briefly mentions how the content will be helpful in the future
The instructor relates the session content to learning outcomes for the course.	Briefly mentions how the content will be helpful in the future	The instructor gives a clear explanation on how the session content relates to specific learning outcomes	The instructor gives a clear explanation of why they've done what they've done so far and how the current session's content relates to specific learning outcomes	Briefly mentions how the content will be helpful in the future
The instructor uses visual aids that are clear, organized, and relevant.	Visual aids are: •clear in that writing (on board, document camera, electronic device) is legible; PowerPoint slides are not overpowered or underwhelmed with text •organized in that individual chunks of material (a single slide, single problem) are laid out such that the student can see a logical sequence in the material presented, images are close to the concepts they describe, organized notes are readily constructed from the visual aids,			

	<p>and less relevant material is spoken rather than spoken and written.</p> <ul style="list-style-type: none"> ·relevant in that tangential equations and formulas are avoided; images reinforce the concepts and words as presented, and examples closely apply the concepts presented. 			
	Visual aids contain none of the above elements as described	Visual aids contain one of the above elements as described	Visual aids contain two of the above elements as described	Visual aids contain three of the above elements as described
The instructor uses practical, “real-world” examples to support teaching.	No real-world examples are provided.	One substantive real-world example is provided.	More than two examples are provided during each 50-minute period but not all are relevant.	More than two examples are provided during each 50-minute period and all examples are relevant.
The instructor refers to the relevant portions of the textbook, reading, or other supplement.	<i>Not referenced/no textbook used in the class.</i>	<i>Mentions what chapters/pages to read and nothing else.</i>	<i>Tells the students where the material is in the textbook and uses examples straight from it.</i>	<i>Tells the students where the material is in the textbook and uses examples straight from it, takes excerpts from the book and uses them during lecture. Specifically says what parts of the text to focus on.</i>
The instructor uses humor effectively to promote student engagement and rapport.	Not at all	Humor is attempted 1+ times, but there is silence	Humor is attempted 1+ times, and a few students laugh	Many students laugh at the instructor’s jokes and the atmosphere is light
The instructor answers questions well and demonstrates knowledge of the subject.	No questions asked.	Answers the questions vaguely, student needs to ask additional questions.	Answers the question but leaves the student somewhat confused.	Answers the questions clearly and easily explains it to the student.
The instructor shows clear interest or enthusiasm in teaching.	No enthusiasm/interest whatsoever.	Shows some enthusiasm but is mostly bland and unenergetic.	Shows enthusiasms for most of the class but has moments in which the instructor is more bland.	Instructor smiles, seems excited about the topic, give students positive energy.

The instructor uses student names.	Doesn't use names.	Remembers less than 5 names and uses them; doesn't ask for new names.	Remembers 5-10 names and uses them, always asks for a new name.	Remembers over 10 names and actively tries to learn new names.
The instructor asks specific questions.	never ask any questions to students	ask ambiguous questions that are difficult for students to respond	ask at least one question that result in clear responses from students	ask questions periodically to lead students keep thinking during class session
The instructor pauses after asking a question.	No pause.	< 10 second pause.	< 20 second pause.	At least a 30 second pause.
The instructor asks questions of students that result in responses from students.	Not at all.	1-2 students	>2 students but less than half respond	>Over 50% respond
The instructor changes gears periodically from one style of teaching to another.	Not at all	The instructor changes gears to another form of teaching once during the session	The instructor changes gears to another form of teaching twice during the session	The instructor doesn't lecture for more than 15% of the allotted time before changing to another form of teaching
The instructor engages students periodically through think/pair/share, problem solving, or other active learning exercises.	Not at all.	1-2 active learning exercises per session.	3-4 active learning exercises per session.	5+ active learning exercises per session.
The instructor uses guided notes.	No guided notes	Guided notes are provided for the students, but the teacher doesn't use them during lecture.	Guided notes are provided for the students, and the teacher fills out part of them during the lecture but it's not his/her main focus.	Guided notes clearly provide the space to fill out, include necessary information; instructor spends majority of class filling them out.
The instructor involves students periodically in what is to be	Not at all	The instructor asks for student feedback on material to be	The instructor asks for student feedback on the material to be	The instructor asks for student feedback on the material to be covered 2+ times

covered during the session.		covered but doesn't implement change	covered 1 time and follows through with the changes accordingly	and follows through with the changes accordingly
<i>During the Observed Session:</i>	<i>Not at All</i>	<i>Somewhat</i>	<i>Satisfactory</i>	<i>Outstanding</i>
The instructor uses more than one way to explain problems or concepts.	No explanation or just 1 way.	2-3 different explanations.	4-5 different explanations.	5+ different explanations.
The opening of the class session gets students' attention.	Takes over a minute to get students to quiet down and focus.	Takes 30-60 seconds to get students to quiet down and focus.	Takes 10-30 seconds to get students to quiet down and focus.	Takes less than 10 seconds to get students to quiet down and focus.
The instructor provides a summary of what has been covered and accomplished at the end of the observed session.	None provided	A brief verbal summary is provided	A brief verbal and visual summary is provided	A clear verbal and visual summary of the content is provided and discussed in detail. (i.e. a roadmap)
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.	No objectives at all	Briefly talks about what the next session will focus on	Talks in some detail about what the next session will focus on	Talks about what the next session will focus on in some detail + has a list on a slide/the board that shows the objectives/what to consider
The instructor could be easily heard.	Not able to hear the instructor in the last row at all.	Barely able to hear the instructor in the last row – any other noise makes it almost impossible.	Instructor is heard in the last row without much problem, but other noise makes it significantly harder.	Instructor can be easily heard in the last row throughout the session, speaks clearly.
The instructor moves around in the classroom and refrains from standing/sitting in one place.	The instructor sits/stands in one place.	The instructor only moves if it's absolutely necessary.	The instructor moves around the classroom, but it's all within 5 feet of the same place.	The instructor moves around the classroom a lot and uses that to articulate some of the main points of the session/gives

				examples of how what he/she describes behaves in space.
The instructor uses analogies or metaphors to relate the concepts to students' experience.	Not at all	The instructor uses analogies or metaphors that are hard to understand or don't really relate to students' experience	The instructor uses 1+ analogies or metaphors that are easy to understand OR relate to students' experience	The instructor uses 3+ analogies or metaphors that are easy to understand and relate to students' experience
The instructor emphasizes key points throughout the observed session.	Doesn't mention key points	Brefly mentions a key point once or twice	Mentions key points 3-4 times during the lecture	Clearly highlights main points after every example or concept and ties them up to the learning outcomes of the course
The instructor makes eye contact with students.	No eye contact.	Looks at students only when asking/answering questions; otherwise looks at visual aids.	About 50 – 50 split between looking at students and visual aids.	Looks at different students for majority of the time; only looks at visual aids when explaining something.
The instructor uses open (not closed) body language during the observed session.	Completely closed body language.	Crosses his arms a lot, doesn't look at students; hands in the pockets.	Open body language majority of time, but has closed body language moments.	Open body language all the time.
The instructor engages in behaviors that develop rapport and trust with the students.	No such behavior	Instructor does 1-2 of the best practices mentioned	Instructor does 3 of the best practices mentioned	The teacher shows enthusiasm in teaching, uses student's names, smiles, makes jokes, encourages everybody to be active during the session; makes the session more of a dialogue than a lecture
The instructor relates the material/concepts to personal or societal concerns.	Not at all	Relates the material/concepts to personal or societal concerns 1 time	Relates the material/concepts to personal or societal concerns 2-3 times	Relates the material/concepts to personal or societal concerns 3+ times and gives concrete examples

The instructor is available before class.	Arrives < 1 minute before class.	Arrives 1-2 minutes before class.	Arrives 3-4 minutes before class.	Arrives 5+ minutes before class.		
The instructor is available after class.	Instructor leaves early, or hurries away from class as soon as it ends.	Available for 1-2 minutes.	Available for 2-5 minutes.	Available for as long as necessary/talks with the student on his way out.		
<i>During the Observed Session:</i>	<i>None</i>		<i>Few</i>	<i>Some</i>	<i>Many</i>	<i>Most</i>
Students maintain attention toward the instructor (for example – eye contact).	0 students		10%	20%-30%	30%-50%	Over half
Students remain awake and alert during the observed session.	0 students		1-2 students	5%-10%	10%-50%	Over half
Students are using their cell phones or other electronic devices in activities unrelated to class.	0 students		1-2 students	5%-10%	10%-50%	Over half
Students are over one minute late to class.	0 students		1-2 students	<20%	>20%	Over half
Students pack up early at the end of class.	0 students		1-2 students	5%-10%	10%-50%	Over half
Students are reading the newspaper or doing other non-electronic activities unrelated to class.	0 students		1-2 students	5%-10%	10%-50%	Over half
Students interact with the instructor before class.	0 students		1-2 students	5%-10%	10%-50%	Over half
Students interact with the instructor after class.	0 students		1-2 students	5%-10%	10%-50%	Over half
Students initiate questions.	0 students		1-2 students	5%-10%	10%-50%	Over half
Students respond to questions posed by the instructor.	0 students		1-2 students	5%-10%	10%-50%	Over half
Students ask follow up questions.	0 students		1-2 students	5%-10%	10%-50%	Over half
Students participate in class when asked to do so by the instructor.	0 students		1-2 students	5%-10%	10%-50%	Over half
Students are taking notes.	0 students		1-2 students	5%-10%	10%-50%	Over half

