Instructor Observed:	MAJ Joshua Frey	**Observing Faculty:**	Dr. Biaglow
Time:	1410-~1525	**Course/Subject:**	Gen Chem, Ideal Gas Law
Date:	25 April 2025	**Number of Cadets:**	18

Students Were:

- [ ] Working independently at their desks
- [x] Working in small, cooperative groups
- [ ] Making a presentation
- [x] Listening to a lecture
- [x] Viewing a film
- [ ] Taking a test
- [x] Other: Lots of board problems.

Instructor was:

- [x] Lecturing
- [ ] Facilitating a question-and-answer sequence
- [ ] Demonstrating a concept
- [x] Introducing a new concept
- [ ] Reviewing for a test
- [ ] Other:

Comments:

Positives:
• A generally very good lesson. You have a very relaxed mood which keeps the cadets relaxed (but still attentive).
• You have good knowledge of the material and your delivery was smooth and seemed to be well-practiced.
• AN video was excellent. When you solved the for the AN reaction pressure, Cadet Mantell asked if 3000K was reasonable. This is OK. It would be easy to re-solve at 300K just to show that the pressure is still high.
• Cadets were attentive, well-behaved, and respectful.

Negatives:
• Cleanliness: There is a lot of unsightly dust near the baseboards in room 336. That should be swept up. Drywall is damaged under window. You can submit a work order for spackling and paint. Cleanliness and state of repair of the room contribute in a small way to the disciplined learning environment we are trying to encourage.
• Discipline: At least one cadet was sitting on desk (cadet with arm sling). I saw two cadets briefing across their bodies. Cadets left the classroom without asking permission (Cadet Gunning left for almost 15 minutes). At least one cadet did not have his name on the board for board problems.
• Technical: Significant figures are important. Near where I was sitting, cadets were struggling with SFs (for example, 2nd board problem 87+273=360 with 3 SF's). Cadets should include the SF's in their briefings, especially in problems where it is easy to do that.

Received by:	FREY.JOSHUA.DALHAUSER.1287009689 Digitally signed by FREY.JOSHUA.DALHAUSER.1287009689 Date: 2025.04.28 07:06:35 -04'00'	**Date:**	25 April 2025

Addition Questions and Prompts for Discussion:

- ☐ Did the instructor state the learning objectives?
- ☐ Did the instructor provide context (show a link between the students' past experiences and the current objectives)?
- ☐ What activities were used to present information or teach skills? Examples include lecturing, modeling, demos, etc.
- ☐ What learning modes were used by the cadets during this lesson? Examples include reading, listening, asking questions, solving problems, etc.
- ☐ Did the activities cover a range of learning modes?
- ☐ Did the instructor assess learning during the lesson, either formally or informally? If so, did the instructor adjust teaching style as a result?
- ☐ Did the instructor use any guided practice activities to practice the new skills or apply the new concepts?
- ☐ Were there any assignments for this lesson that allow the cadets to practice the skills or apply the new concepts from the lesson on their own?
- ☐ Were the cadets paying attention? If not, what methods were employed to ensure cadets pay attention and apply effort?
- ☐ Were the cadets well-behaved? If not, how did the instructor respond?

Note: The questions in this section are meant to be discussion prompts and not requirements or to form the basis of a cut scale.

Additional Comments:

• You stated the objectives and provided context.
• Can cadets use their phones to take pictures of the board problems?
• This lesson has room for demos (classics are liquid N2 and balloons, hooking up a small syringe to a pressure sensor, making a paper bag float with a candle (search "can I make a paper bag float with a candle?" in google).
• As stated on the first page, cadets were very well-behaved and attentive. Good job on this.

Instructor Observed:	COL James	**Observing Faculty:**	DR Biaglow
Time:	0740-0855	**Course/Subject:**	CH367
Date:	23 April 2025	**Number of Cadets:**	11

Students Were:

- [ ] Working independently at their desks
- [ ] Working in small, cooperative groups
- [ ] Making a presentation
- [x] Listening to a lecture
- [ ] Viewing a film
- [ ] Taking a test
- [x] Other: Working Mathematica examples.

Instructor was:

- [x] Lecturing
- [ ] Facilitating a question-and-answer sequence
- [x] Demonstrating a concept
- [x] Introducing a new concept
- [ ] Reviewing for a test
- [x] Other: Working example problems.

Comments:

Teaching/Pedagogy:
• I liked this lesson!
• The pace of the lesson was very good and your delivery of the lesson was very smooth and well-practiced.
• Cadets were VERY quiet when asked about simulator exercise at the start. Consider an in-class demo as a warm-up.
• Consider a warm-up CANVAS quiz at beginning of hour. Perhaps write the equations for Y1 and Y2 implied by Fig.18.3.
• Consider warm-ups on inverse and transpose in Mathematica so cadets know what these are.
• Cadets were very well-behaved. Good behavior sets the proper learning environment. No sleeping observed.
• Generally, not pertaining to you only, I have trouble ascertaining what cadets are thinking from their physical behaviors. One indicator is the activity of taking notes. Some cadets were doing this and some were not.
• Consider a cool-down quiz or exercise. Can cadets upload their lesson notes to CANVAS?

Technical:
• Before showing Figure 18-.3, show a simplified version of this without the control loops, and then have the cadets write the implied equations. You have been teaching them for a while now. Do you think they are capable of doing this? Also, doing this would help connect up your slides better.
• Why is lambda=1 special? For example, why not lambda=-1?
• Some of your P&IDs had sensors, some didn't. Be consistent. Do you cover sensors? Is so use them often.

Received by:	JAMES.COREY.MATTHEW.1127038666 Digitally signed by JAMES.COREY.MATTHEW.1127038666 Date: 2025.04.30 10:50:00 -04'00'	**Date:**	23 April 2025

Addition Questions and Prompts for Discussion:

- ☐ Did the instructor state the learning objectives?
- ☐ Did the instructor provide context (show a link between the students' past experiences and the current objectives)?
- ☐ What activities were used to present information or teach skills? Examples include lecturing, modeling, demos, etc.
- ☐ What learning modes were used by the cadets during this lesson? Examples include reading, listening, asking questions, solving problems, etc.
- ☐ Did the activities cover a range of learning modes?
- ☐ Did the instructor assess learning during the lesson, either formally or informally? If so, did the instructor adjust teaching style as a result?
- ☐ Did the instructor use any guided practice activities to practice the new skills or apply the new concepts?
- ☐ Were there any assignments for this lesson that allow the cadets to practice the skills or apply the new concepts from the lesson on their own?
- ☐ Were the cadets paying attention? If not, what methods were employed to ensure cadets pay attention and apply effort?
- ☐ Were the cadets well-behaved? If not, how did the instructor respond?

Note: The questions in this section are meant to be discussion prompts and not requirements or to form the basis of a cut scale.

Additional Comments:

• State the learning objectives. One cadet asked about them.
• You provided context be referring to the SSI software, but cadets were very quiet when asked about this.
• Cadets did not ask questions in class. I have seen this more and more recently in my cadets as well.
• Good use of examples, especially with Mathematica.
• Cadets appeared to be paying attention, but it is very difficult to know what they are thinking.
• I did not see anyone sleeping or nodding off, which is a very good thing.

Instructor Observed: CPT Lowell	Observing Faculty: LTC Cowart
Time: 1410 (5 hour)	Course/Subject: CH101 - GEN. CHEM I
Date: 10 FEB 25	Number of Cadets: 18 (1 absent)

Students Were:

- [X] Working independently at their desks
- [ ] Working in small, cooperative groups
- [ ] Making a presentation
- [X] Listening to a lecture
- [ ] Viewing a film
- [X] Taking a test → EOH quiz
- [ ] Other:

Instructor was:

- [X] Lecturing
- [ ] Facilitating a question-and-answer sequence
- [X] Demonstrating a concept → via example problem on tablet.
- [X] Introducing a new concept → lattice energy
- [ ] Reviewing for a test
- [ ] Other:

Assessment:

Technical Mastery (0-3): 3

Presentation Style (0-3): 3

Classroom Decorum and Control (0-3): 3 → Excellent presence / engagement

Comments:

- Started class on time; discussion about Super Bowl DNC commercials
- Good use of tablet for "on-the-board" notes.
- Great analogy w/ bank account, number line, IE, etc.
- Refer to PDC, does it agree w/ our worked out answers?
- Calling on cadets → keeps the awake.
  - next: how do you know? when asking

Received by:	Date: 25 FEB 25

Cowell, Samuel
CPT (P)

Addition Questions and Prompts for Discussion:

- [x] Did the instructor state the learning objectives?
- [x] Did the instructor provide context (show a link between the students' past experiences and the current objectives)? Discussion of heat release -or- photon release.
- [x] What activities were used to present information or teach skills? Examples include lecturing, modeling, demos, etc.
- [x] What learning modes were used by the cadets during this lesson? Examples include reading, listening, asking questions, solving problems, etc.
- [ ] Did the activities cover a range of learning modes?
- [x] Did the instructor assess learning during the lesson, either formally or informally?
- [ ] If so, did the instructor adjust teaching style as a result?
- [x] Did the instructor use any guided practice activities to practice the new skills or apply the new concepts? Demo problems.
- [ ] Were there any assignments for this lesson that allow the cadets to practice the skills or apply the new concepts from the lesson on their own?
- [x] Were the cadets paying attention? If not, what methods were employed to ensure cadets pay attention and apply effort? Very engaged.
- [ ] Were the cadets well-behaved? If not, how did the instructor respond?

Note: The questions in this section are meant to be discussion prompts and not requirements or to form the basis of a cut scale.

- Went from discussion on IE and PE to a demonstrated problem that showcased the concepts.

- Be careful of sign-number/number-sign. Will confuse when getting to students.

- Useful when discussing octets/duets to use orbital diagrams -> can "see" when levels are filled.

Instructor Observed: Dr. Mancini	Observing Faculty: LTC Conant
Time:	Course/Subject: CH 400 – Kinetics
Date: 14 FEB 25	Number of Cadets: 13 (1 ABSENT)

Students Were:

- [X] Working independently at their desks
- [ ] Working in small, cooperative groups
- [ ] Making a presentation
- [ ] Listening to a lecture
- [ ] Viewing a film
- [ ] Taking a test
- [X] Other: → Revising problems from previous quiz.

Instructor was:

- [X] Lecturing
- [ ] Facilitating a question-and-answer sequence
- [ ] Demonstrating a concept
- [ ] Introducing a new concept
- [X] Reviewing for a test → FCE
- [ ] Other:

Assessment:

Technical Mastery (0-3): 3 → very complex problems

Presentation Style (0-3): 3 → quick, but effective

Classroom Decorum and Control (0-3): 3 → The cadets want to learn this.

Comments:

- Good review of absorption column calculations. Relating to the mass transfer aspects that will follow.
- Absorption / separation seems to be a struggle for the cadets NTU / HTU.
- Good kinetics problems
- The gas diffusion problem was done almost verbatim in 485.

5 problems in 30 min (very rapid)

Received by:	Date: 07 May 25

Addition Questions and Prompts for Discussion:

- ☐ Did the instructor state the learning objectives?
- ☒ Did the instructor provide context (show a link between the students' past experiences and the current objectives)? → Each question with upon previous problems
- ☒ What activities were used to present information or teach skills? Examples include lecturing, modeling, demos, etc.
- ☒ What learning modes were used by the cadets during this lesson? Examples include reading, listening, asking questions, solving problems, etc.
- ☐ Did the activities cover a range of learning modes?
- ☐ Did the instructor assess learning during the lesson, either formally or informally?
- ☐ If so, did the instructor adjust teaching style as a result?
- ☒ Did the instructor use any guided practice activities to practice the new skills or apply the new concepts? LOTS OF PRACTICE PROBLEMS
- ☐ Were there any assignments for this lesson that allow the cadets to practice the skills or apply the new concepts from the lesson on their own?
- ☒ Were the cadets paying attention? If not, what methods were employed to ensure cadets pay attention and apply effort?
- ☒ Were the cadets well-behaved? If not, how did the instructor respond? YES!

Note: The questions in this section are meant to be discussion prompts and not requirements or to form the basis of a cut scale.

$C_A = C_{A0}\frac{(1-x)}{(1+\varepsilon x)}$ $\quad \varepsilon = y_{A0}\delta$ $\quad \delta = -1/2$ $\quad \varepsilon = -1/2$ $\quad y_{A0} = 1$

$C_A = C_{A0}\frac{(1-x)}{(1-\frac{1}{2}x)} = 0.25\left(\frac{1-0.95}{1-0.5(0.95)}\right) =$

Instructor Observed: MAJ TOBERLITE	Observing Faculty: LTC COWART
Time: 0740 - A Hour	Course/Subject: CH362 - MEB
Date: 12 FEB 2025	Number of Cadets: 16 all present.

Students Were:

- [x] Working independently at their desks
- [x] Working in small, cooperative groups → PAIRS FOR CONCEPT DISCUSSION ✓
- [ ] Making a presentation
- [ ] Listening to a lecture
- [ ] Viewing a film
- [ ] Taking a test
- [ ] Other:

Instructor was:

- [x] Lecturing
- [x] Facilitating a question-and-answer sequence
- [x] Demonstrating a concept → BOARD EXAMPLES
- [x] Introducing a new concept
- [ ] Reviewing for a test
- [ ] Other:

Assessment:

Technical Mastery (0-3): 3

Presentation Style (0-3): 3

Classroom Decorum and Control (0-3): 3 very engaged class.

Comments:

- Good callback to Gen. Chem. on balancing rxns, how reacted
- Starting w/ 20s grant way to start class.
- Calling on cadets to keep them engaged. Good.
- For stoich rxn: give example $H_2 + O_2 \rightarrow H_2O$ how much O_2 do we need? Where do we get this info? BALANCE.
- On $\xi = \frac{n_A - n_{A_0}}{\nu_A}$ → rearrange for n_A: same as board ex.

Received by:	Date:
[signature]	12 FEB 2025

Addition Questions and Prompts for Discussion:

- [x] Did the instructor state the learning objectives? – Explicitly -> started class w/
- [x] Did the instructor provide context (show a link between the students' past experiences and the current objectives)? —> LINKED TO GEN CHEM
- [x] What activities were used to present information or teach skills? Examples include lecturing, modeling, demos, etc.
- [x] What learning modes were used by the cadets during this lesson? Examples include reading, listening, asking questions, solving problems, etc.
- [x] Did the activities cover a range of learning modes?
- [x] Did the instructor assess learning during the lesson, either formally or informally? LOTS OF QUESTIONS
- [x] If so, did the instructor adjust teaching style as a result? –> MULTIPLE WAYS TO SOLVE PROBLEM
- [x] Did the instructor use any guided practice activities to practice the new skills or apply the new concepts? EXAMPLE PROBLEMS
- [x] Were there any assignments for this lesson that allow the cadets to practice the skills or apply the new concepts from the lesson on their own?
- [x] Were the cadets paying attention? If not, what methods were employed to ensure cadets pay attention and apply effort?
- [x] Were the cadets well-behaved? If not, how did the instructor respond? —> GREAT CLASS.

Note: The questions in this section are meant to be discussion prompts and not requirements or to form the basis of a cut scale.

- Screen size? Can adjust?
- Excellent in-class example that highlights all concepts.
- Good discussion w/ cadets as they were working on problems
- Good working through the problem w/ them on boards.

- Which fractional conversion is correct?
  - Usually based on percentage of knowledge retained, but for reactions eqn. as written.

Instructor Observed: Professor Biaglow	**Observing Faculty: Dr. Enoch Nagelli**
Time: 1055-1150 (D1)	**Course/Subject: LSN13: Flowsheet Synthesis and I/O Analysis**
Date:12FEB	**Number of Cadets: 15**

Students Were:

- X Working independently at their desks
- ☐ Working in small, cooperative groups
- ☐ Making a presentation
- X Listening to a lecture
- ☐ Viewing a film
- ☐ Taking a test
- X Other: Working on instructor problems provided with templates.

Instructor was:

- X Lecturing
- ☐ Facilitating a question-and-answer sequence
- ☐ Demonstrating a concept
- X Introducing a new concept
- ☐ Reviewing for a test
- ☐ Other:

Assessment:

Technical Mastery (0-3): 3 – Overall, good mastery of the lesson content! Really connecting process engineering to real life design is very effective for cadets.

Presentation Style (0-3): 3 – Effective slides and lecturing on key topics. The build functions on slides was great.

Classroom Decorum and Control (0-3):3 – Classroom decor and control was to the standard.

Comments:

1. Liked the WPR review and opportunities for cadets to get points back.
2. Liked the real world implications for the chemical process case study of vinyl chloride and the production in the US for the economy

--The East Palestine, OH example really helps connects the safety and environment implications

3. The organic chem review of Acetylene (structure and bonds) and Oxychlorination with pyrolysis is great.
4. Function diagram vs the process flow diagram (PFD) vs I/O diagram

--Liked the use of the acetylene reaction to compare each type of diagram

5. Really liked the fuel cell reaction and the electrolysis for connecting with CH459!

Received by: 	**Date:** **12 Feb 2025**

Addition Questions and Prompts for Discussion:

X Did the instructor state the learning objectives?

X Did the instructor provide context (show a link between the students' past experiences and the current objectives)?

X What activities were used to present information or teach skills? Examples include lecturing, modeling, demos, etc. Prof. Biaglow worked through an instructor problem from the text (example 4-2)

X What learning modes were used by the cadets during this lesson? Examples include reading, listening, asking questions, solving problems, etc. Cadets were working independently on problem solving with Prof. Biaglow walking through the problem simutaneously

☐ Did the activities cover a range of learning modes?

X Did the instructor assess learning during the lesson, either formally or informally? Informally opening cadets for questions as working through the problem while displaying the instructor computer screen,

☐ If so, did the instructor adjust teaching style as a result?

X Did the instructor use any guided practice activities to practice the new skills or apply the new concepts? The exercise working through the excel sheet was really effective to demonstrate a problem solving application!

☐ Were there any assignments for this lesson that allow the cadets to practice the skills or apply the new concepts from the lesson on their own?

X Were the cadets paying attention? If not, what methods were employed to ensure cadets pay attention and apply effort? Cadets where attentive and engaged.

X Were the cadets well-behaved? If not, how did the instructor respond? Cadets where all respectful and paying attention with the problem solving exercise.

Note: The questions in this section are meant to be discussion prompts and not requirements or to form the basis of a cut scale.

Recommendations

Overall, great class! Really enjoyed learning the work flow of cadets solving problems to help develop skills that are needed for the capstone design project..

Instructor Observed: CPT(P) Golonski	**Observing Faculty: Dr. Enoch Nagelli**
Time: 0950-1105 (C1D1)	**Course/Subject: LSN12: Electronegativity Partial Charge and Nomenclature**
Date:12FEB	**Number of Cadets: 16**

Students Were:

- X Working independently at their desks
- ☐ Working in small, cooperative groups
- ☐ Making a presentation
- X Listening to a lecture
- ☐ Viewing a film
- ☐ Taking a test
- ☐ Other:

Instructor was:

- X Lecturing
- ☐ Facilitating a question-and-answer sequence
- ☐ Demonstrating a concept
- X Introducing a new concept
- ☐ Reviewing for a test
- ☐ Other:

Assessment:

Technical Mastery (0-3): 3

Presentation Style (0-3): 3

Classroom Decorum and Control (0-3):3

Comments:

1. I liked how you engaged cadets as they were walking into the class.
2. Liked that you started with advice for cadets as PLs for soldiers who are struggling with something to confide in them
3. Its great to show the competition in sections!
4. LSN11 Review: Good job calling on cadets to explain concepts.

--Good job getting the cadets to explain the columbic forces and demonstrating the potential energy is lowered by bonds being formed

5. Good job on connecting with your possible structures of H2O that the net dipole can change based on how we draw or depict the structure….

--Great segway to the demo! Liked using the debate on structure.

6. Started Naming at 1051 (Learning objective 4)

Received by: CPT Liz Golonski GOLONSKI.ELIZABETH.SONDRA.1405351338 Digitally signed by GOLONSKI.ELIZABETH.SONDRA.1405351338 Date: 2025.05.08 16:09:04 -04'00'	**Date:** 19 Feb 2025

Addition Questions and Prompts for Discussion:

- Did the instructor state the learning objectives?
- Did the instructor provide context (show a link between the students' past experiences and the current objectives)?
- What activities were used to present information or teach skills? Examples include lecturing, modeling, demos, etc.
- What learning modes were used by the cadets during this lesson? Examples include reading, listening, asking questions, solving problems, etc.
- Did the activities cover a range of learning modes?
- Did the instructor assess learning during the lesson, either formally or informally?
- If so, did the instructor adjust teaching style as a result?
- Did the instructor use any guided practice activities to practice the new skills or apply the new concepts?
- Were there any assignments for this lesson that allow the cadets to practice the skills or apply the new concepts from the lesson on their own?
- Were the cadets paying attention? If not, what methods were employed to ensure cadets pay attention and apply effort?
- Were the cadets well-behaved? If not, how did the instructor respond?

Note: The questions in this section are meant to be discussion prompts and not requirements or to form the basis of a cut scale.

Recommendations

1. Check desks of cadets to make sure they leave drinks outside of the classroom since not allowed. There was a cadet with a water bottle on his desk.
2. When cadet asked for example problem to review. I recommend asking the class if there were problems from after class work form LSN11 that they had trouble with and address that on the board
3. As you use the displayed periodic table, recommend having cadets at their desks navigate their RDC and get them familiar with the details of electronegativity values and where to located them.
4. When explaining trends, I recommend having cadets walk through what is physically happening as you go down a column in terms of energy levels or shells and what happens when you go across a row in terms of electrons.
5. When demonstrating H-Cl recommend having the electron cloud diagram from TRO to demonstrate to cadets visually how electrons are "arranged" in a polar covalent bond
6. When cadets went to boards for the Instructor Problem for H_2O, back board of cadets did not have the correct did not have the correct bonds in the molecule structure. I think the focus was more on the cadets in the front of the classroom so I recommend scanning the classroom and see if there are common mistakes and address with instructor solution at the front of the classroom. This is a

technique that always helped me to do a global solution if I see commonality in answers that were incorrect on boards.
7. Is the vector calculation a learning objective for this lesson? Its awesome you covered since its good to have the background for cadets to learn the overall net diplole but perhaps just have the math ready to click and display but get them to connect how the structure impacts the net dipole.
8. For the demo, cadets are really curious on what is happening – recommend entertaining or opening up cadets to discuss more…one of the cadets had a good question on whats actually happening..i would open it up in the classroom to have cadets discuss and explore ideas. I would recommend closing the discussion with theories that are in science and physics with electrostatics. Electrostatic society has been debating the mechanism – is it charge transfer from keratin in hair with the friction force from latex creating an electron transfer to induce a charge on latex which is normally an insulator.

Instructor Observed: Dr. Simuck Yuk	Observing Faculty: Dr. Enoch Nagelli
Time: 0740-0905	Course/Subject: CH300/LSN14 Cellular Thermo II
Date:21FEB25	Number of Cadets: 15

Students Were:

- X Working independently at their desks
- X Working in small, cooperative groups
- ☐ Making a presentation
- X Listening to a lecture
- ☐ Viewing a film
- ☐ Taking a test
- X Other: Work independently on

Instructor was:

- X Lecturing
- X Facilitating a question-and-answer sequence
- ☐ Demonstrating a concept
- X Introducing a new concept
- ☐ Reviewing for a test
- ☐ Other:

Assessment:

Technical Mastery (0-3): 3 - Great job in using quantitative modeling and theory to give cadets a problem to apply to biology!

Presentation Style (0-3): 3 – Good presentation style using slides and lecturing.

Classroom Decorum and Control (0-3): 3 – Classroom was to the standard.

Comments:

1. Classroom décor and SM report was to the standard.
2. Good explanation of introducing the Taylor series approximation!
3. Liked the example of Internal energy to demonstrate to the cadets how the taylor series approximation ends with a relationship that resembles kinetic energy term with a parabolic relationship.
4. In class problem started at 0805 –

-- Really liked the cadets to solve the problem in class and upload into Canvas!

-- Recommend cadets to be allowed to talk with their neighbor and discuss if needed

-- Recommend walking around the room and seeing if cadets have questions

5. Entropy contribution discussion started at 0835

YUK.SIMUCK.1591450413 Digitally signed by YUK.SIMUCK.1591450413 Date: 2025.05.07 13:16:55 -04'00'	**Date:**

Addition Questions and Prompts for Discussion:

X Did the instructor state the learning objectives?

☐ Did the instructor provide context (show a link between the students' past experiences and the current objectives)?

X What activities were used to present information or teach skills? Examples include lecturing, modeling, demos, etc. **Instructor problem was great and good quantitative problems solving exercise**

X What learning modes were used by the cadets during this lesson? Examples include reading, listening, asking questions, solving problems, etc. **Independent problem solving and uploading answer to Canvas as a form of evaluating learning.**

☐ Did the activities cover a range of learning modes?

X Did the instructor assess learning during the lesson, either formally or informally? **Formally through a canvas upload.**

☐ If so, did the instructor adjust teaching style as a result?

☐ Did the instructor use any guided practice activities to practice the new skills or apply the new concepts?

X Were there any assignments for this lesson that allow the cadets to practice the skills or apply the new concepts from the lesson on their own?

X Were the cadets paying attention? If not, what methods were employed to ensure cadets pay attention and apply effort?

☐ Were the cadets well-behaved? If not, how did the instructor respond?

Note: The questions in this section are meant to be discussion prompts and not requirements or to form the basis of a cut scale.

Recommendations

1. The room layout with two screens is good for the space you have…recommend trying to utilize both sides of the room and projector screens by pacing across the front to ensure both sides of the classroom are engaged.

--Recommend making CDT Riddle and CDT next to her sit with the general array of desks centered in the room so that you don't have to them feel isolated in room OR Move their desk up to the instructor bench area so gives them more interaction with class

-- Cadet Mantooth had her hand up for a question at the end of the internal energy discussion but was hard to see since she is on the other side of the room near the instructor bench

2. Andre Riddle left for a large portion of the class in the beginning (within 0750-?) She missed the beginning of the in-class problem. Returned at 0820. Recommend deducting her points from the Instructor problem and counseling her about the reason for missing a half hour of a class. Did she have an excuse for this?

3. Recommend for instructor problem or exercise pertaining to the Entropy consideration – have the mathematical relationship projected simultaneously with the S/kb vs c plot on one slide so cadets can see both as they code at their desks

Instructor Observed: COL Burpo	**Observing Faculty: Dr. Yuk**
Time: 10:35 to 11:50	**Course/Subject: CH450**
Date: 02/06/25	**Number of Cadets: 17**

Students Were:

- ✓ Working independently at their desks
- ✓ Working in small, cooperative groups
- ☐ Making a presentation
- ✓ Listening to a lecture
- ☐ Viewing a film
- ☐ Taking a test
- ☐ Other:

Instructor was:

- ✓ Lecturing
- ✓ Facilitating a question-and-answer sequence
- ✓ Demonstrating a concept
- ✓ Introducing a new concept
- ☐ Reviewing for a test
- ☐ Other:

Assessment:

Technical Mastery (0-3): 3

Presentation Style (0-3): 3

Classroom Decorum and Control (0-3): 3

Comments:

At 10:35, the class was called to attention. Music was used as a tool to reinforce key concepts introduced at the beginning of the lecture. Administrative updates were provided, outlining the overall direction of CH450 for the next two weeks. The official deadline for Problem Set 2 was reiterated, and key points from Problem Set 1 were reviewed, including model details and concept applications. The rubber band model was introduced to illustrate polymer elasticity, and the stress-shear relationship was demonstrated on the board to clarify the physical meaning of these terms. A discussion between the instructor and cadets followed, focusing on a scientific review paper. At 11:50, the class was officially dismissed.

Received by: BURPO.FRED.JOHN.1087644088 Digitally signed by BURPO.FRED.JOHN.1087644088 Date: 2025.02.06 12:07:58 -05'00'	**Date: 02/06/25**

Addition Questions and Prompts for Discussion:

- Did the instructor state the learning objectives?
- Did the instructor provide context (show a link between the students' past experiences and the current objectives)?
- What activities were used to present information or teach skills? Examples include lecturing, modeling, demos, etc.
- What learning modes were used by the cadets during this lesson? Examples include reading, listening, asking questions, solving problems, etc.
- Did the activities cover a range of learning modes?
- Did the instructor assess learning during the lesson, either formally or informally?
- If so, did the instructor adjust teaching style as a result?
- Did the instructor use any guided practice activities to practice the new skills or apply the new concepts?
- Were there any assignments for this lesson that allow the cadets to practice the skills or apply the new concepts from the lesson on their own?
- Were the cadets paying attention? If not, what methods were employed to ensure cadets pay attention and apply effort?
- Were the cadets well-behaved? If not, how did the instructor respond?

Note: The questions in this section are meant to be discussion prompts and not requirements or to form the basis of a cut scale.

Instructor Observed: LTC Samuel V. Cowart	**Observing Faculty: Dr. Simuck F. Yuk**
Time: 09:00-10:00	**Course/Subject: CH364 Reaction Engineering**
Date: 04/29/25	**Number of Cadets: 6**

Students Were:

- € Working independently at their desks
- ✓ Working in small, cooperative groups
- € Making a presentation
- € Listening to a lecture
- € Viewing a film
- € Taking a test
- ✓ Other: Briefing the Capstone IPR documents to the instructors.

Instructor was:

- € Lecturing
- ✓ Facilitating a question-and-answer sequence
- ✓ Demonstrating a concept
- € Introducing a new concept
- € Reviewing for a test
- ✓ Other: Giving the IPR feedback to the 2 cadet design teams.

Assessment:

Technical Mastery (0-3): 3

Presentation Style (0-3): 3

Classroom Decorum and Control (0-3): 3

Comments:

The IPR briefing session was held in the conference room to foster a natural question-and-answer environment. Two teams, each consisting of three cadets, presented their hybrid capstone design projects to the instructors. Kinetic data were shared in Excel format, allowing instructors to review and provide detailed feedback on the cadets' analysis process. An instructor from CH367 (Process Control) was also present to offer additional insights on the overall process design for the cadets' reactor kinetics. Overall, the cadets received valuable, in-depth guidance from the instructors, helping them improve their capstone projects from both reaction engineering and process control perspectives

Received by: 	**Date: 05/08/25**

Addition Questions and Prompts for Discussion:

- € Did the instructor state the learning objectives?
- € Did the instructor provide context (show a link between the students' past experiences and the current objectives)?
- € What activities were used to present information or teach skills? Examples include lecturing, modeling, demos, etc.
- € What learning modes were used by the cadets during this lesson? Examples include reading, listening, asking questions, solving problems, etc.
- € Did the activities cover a range of learning modes?
- € Did the instructor assess learning during the lesson, either formally or informally?
- € If so, did the instructor adjust teaching style as a result?
- € Did the instructor use any guided practice activities to practice the new skills or apply the new concepts?
- € Were there any assignments for this lesson that allow the cadets to practice the skills or apply the new concepts from the lesson on their own?
- € Were the cadets paying attention? If not, what methods were employed to ensure cadets pay attention and apply effort?
- € Were the cadets well-behaved? If not, how did the instructor respond?

Note: The questions in this section are meant to be discussion prompts and not requirements or to form the basis of a cut scale.

Instructor Observed: CPT Nijel Rogers	**Observing Faculty: Dr. Simuck F. Yuk**
Time: From 09:50 to 11:50	**Course/Subject: CH101/General Chemistry I**
Date: 02/11/25	**Number of Cadets: 18**

Students Were:

- ✓ Working independently at their desks
- ✓ Working in small, cooperative groups
- ☐ Making a presentation
- ✓ Listening to a lecture
- ☐ Viewing a film
- ☐ Taking a test
- ✓ Other: Taking a note, Executing the board problems

Instructor was:

- ✓ Lecturing
- ✓ Facilitating a question-and-answer sequence
- ✓ Demonstrating a concept
- ✓ Introducing a new concept
- ☐ Reviewing for a test
- ✓ Other: Going over the learning objectives on the board

Assessment:

Technical Mastery (0-3): 3

Presentation Style (0-3): 3

Classroom Decorum and Control (0-3): 3

Comments:

The board was pre-arranged with key concepts and problems, enabling the instructor to save time while introducing new material. Before the lesson began, the instructor facilitated an in-class discussion with the cadets to help them focus on the session. Music was played to align the song's theme with the learning objectives of the lesson. At 09:50, the section marcher called the class to attention, and all cadets were present and prepared to receive instructions. Administrative updates were provided to inform cadets about the class schedule and direction for the next two weeks. A demonstration of the methanol cannon was conducted to capture the cadets' attention and connect to the core concepts. The instructor reviewed content from the previous lesson to reinforce critical ideas, followed by presenting the outline of the current lesson to establish anchoring points for the cadets. A combination of board problems and slides was used to effectively cover the learning objectives on Lewis structures and formal charges. Overall, the lesson was executed successfully, and the cadets appreciated the instructor's engaging teaching methodology

Received by: ROGERS.NIJEL.JAMIL MITCHELL.1405350382 Digitally signed by ROGERS.NIJEL.JAMIL MITCHELL.1405350382 Date: 2025.02.12 09:44:36 -05'00'	**Date: 02/11/25**

Addition Questions and Prompts for Discussion:

- Did the instructor state the learning objectives?
- Did the instructor provide context (show a link between the students' past experiences and the current objectives)?
- What activities were used to present information or teach skills? Examples include lecturing, modeling, demos, etc.
- What learning modes were used by the cadets during this lesson? Examples include reading, listening, asking questions, solving problems, etc.
- Did the activities cover a range of learning modes?
- Did the instructor assess learning during the lesson, either formally or informally?
- If so, did the instructor adjust teaching style as a result?
- Did the instructor use any guided practice activities to practice the new skills or apply the new concepts?
- Were there any assignments for this lesson that allow the cadets to practice the skills or apply the new concepts from the lesson on their own?
- Were the cadets paying attention? If not, what methods were employed to ensure cadets pay attention and apply effort?
- Were the cadets well-behaved? If not, how did the instructor respond?

Note: The questions in this section are meant to be discussion prompts and not requirements or to form the basis of a cut scale.