

Name: Paul H. Dietrich

Date: 14 April 23

2023 Advisory Board Surveys

Welcome to our annual advisory board meeting. As you know, we consider each of you to be valued shareholders in our program. The meeting is our annual shareholder's meeting, where we show you our performance report and discuss methods of improving the program. This document is your official advisory board survey, and it is *extremely important to our program*. It is designed to do two things. First, the completed surveys provide *documentation* that you have been briefed on the performance of our cadets and the relevance of the program objectives, helping us maintain our accreditation. Second, it allows us to use your collective knowledge and experience to *identify areas* where we might be in need of improvement. The surveys are based in part on the data that we present to you during this meeting, and your responses are your "thumbs up or down" to the various performance indicators we are tracking. This survey is part of the assessment for *Academic Year 2022* (cadets who graduated in May 2022).

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- The survey is electronically fillable. Use the tab key to step though the form.
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Name: Paul Dietrich

Date: _____

The mission of the chemical engineering program is to prepare commissioned leaders of character who are proficient in applying chemical and engineering principles to solve problems in a complex operational environment.

Chemical Engineering Program Objectives: During a career as commissioned officers in the United States Army and beyond, program graduates:

- Demonstrate effective leadership and chemical engineering expertise.
- Contribute to the solution of infrastructure or operational problems in a complex operational environment.
- Succeed in graduate school or other advanced study programs.
- Advance their careers through clear and precise technical communication.

Chemical Engineering General Program Outcomes (Outcomes 1-7): On completion of the chemical engineering program, our graduates demonstrate an ability to:

- [Student Outcome 1] Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- Communicate effectively with a range of audiences.
- Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
- Acquire and apply new knowledge as needed, using appropriate learning strategies.

Chemical Engineering Curriculum Outcomes (Outcome 8): The program provides the graduate with a thorough grounding and working knowledge of the chemical sciences, including:

- Chemistry
- Material and energy balances
- Safety and environmental factors
- Thermodynamics of physical and chemical equilibria
- Heat, mass, and momentum transfer
- Chemical reaction engineering
- Continuous and staged separation operations
- Process dynamics and control
- Modern experimental and computing techniques
- Process design

Make sure to familiarize yourself with this page.

Name: Paul Dietrich

Date: _____

Part I. Student Outcomes. Review the data and then check the box in the column that most closely represents your opinion.

The cadets in the program are able to:	Strongly Disagree	Neutral	Strongly Agree
• Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.			X
• Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.			X
• Communicate effectively with a range of audiences.			X
• Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.			X
• Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.			X
• Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions.			X
• Acquire and apply new knowledge as needed, using appropriate learning strategies.			X
• Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.			X

Make sure to provide one response per row.

Name: Paul Dietrich

Date: _____

Part II. Program Objectives. Check the box that most closely represents your opinion.

	Strongly Disagree	Neutral	Strongly Agree
The program objectives are consistent with the USMA mission.			X
The program objectives are consistent with the needs of the Army.			X
The program curriculum supports the program objectives.			X
The student outcomes are consistent with the program mission and objectives.			X
The program has a process for periodically assessing the achievement of its student outcomes.			X
The survey methods used by the program are effective.			X
The cadets in the program are aware of the program objectives.			X
The cadets are given an opportunity to provide their opinion about the program objectives.			X
The cadets are satisfied with the courses in the program.			X
The faculty are aware of the program objectives.			X
The faculty are given an opportunity to provide their opinion about the program objectives.			X

Make sure to provide one response per row.

Name: Paul Dietrich

Date: _____

Part III. Open Questions. Answer the questions below or provide other input as desired.

Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum? Please explain.

2nd Controls course AND or Separates/reactions VS CE
Thermodynamics which is less relevant to C/E
^{more specific to}

Consider a 1 credit Chem Engg intro but
implement via Required Engg Courses

Do you have any suggestions to improve the advisory board meeting for next year?

Please add any addition comments that you would like to make below.

Consider suggestion of Board members becoming
members of congress or Senator Service Academy
selection boards - potential to preload USMA
with Chem E info

Name: Lucy Hair

Date: 4/14/2023

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Name: Lucy Hair

Date: 4/14/23

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Make sure to familiarize yourself with this page.

Name: Lacy HairDate: 4/14/23

Part I. Student Outcomes. Review the data and then check the box in the column that most closely represents your opinion.

The cadets in the program are able to:	Strongly Disagree	Neutral	Strongly Agree
• Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.			X
• Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.			X
• Communicate effectively with a range of audiences.			X
• Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.			X
• Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.			X
• Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions.		<i>mostly</i> mixed	X
• Acquire and apply new knowledge as needed, using appropriate learning strategies.		<i>mixed</i> X X	
• Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.			X

Make sure to provide one response per row.

Name: Lucy HairDate: 4/14/23**Part II. Program Objectives.** Check the box that most closely represents your opinion.

	Strongly Disagree	Neutral	Strongly Agree
The program objectives are consistent with the USMA mission.			X
The program objectives are consistent with the needs of the Army.			X
The program curriculum supports the program objectives.			X
The student outcomes are consistent with the program mission and objectives.			X
The program has a process for periodically assessing the achievement of its student outcomes.			X
The survey methods used by the program are effective.			X
The cadets in the program are aware of the program objectives.			X
The cadets are given an opportunity to provide their opinion about the program objectives.			X
The cadets are satisfied with the courses in the program.			X
The faculty are aware of the program objectives.			X
The faculty are given an opportunity to provide their opinion about the program objectives.			X

Make sure to provide one response per row.

Name: Lucy Hair

Date: 4/14/2023

Part III. Open Questions. Answer the questions below or provide other input as desired.

Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum? Please explain.

Materials science and engineering is an increasingly important field in civilian + military technologies - is that addressed?

Do you have any suggestions to improve the advisory board meeting for next year?

Field trips for cows + firsties
Lunches " " "

Well-organized. I think the round-robin cadet interviews could be reinstated.

wrong
place
goes
here

Please add any addition comments that you would like to make below.

- Very positive feedback on faculty from students
- The difficult ChE curricula is both a point of pride & a detriment to the cadets, the latter because the increased course load often results in lower GPA. Is there a way ~~of~~ to offset that?

Name: MATTHEW LITERSTORPE

Date: 4/19/2023

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Make sure to familiarize yourself with this page.

Name: MWL

Date: 4/2023

Part I. Student Outcomes. Review the data and then check the box in the column that most closely represents your opinion.

The cadets in the program are able to:	Strongly Disagree	Neutral	Strongly Agree
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• Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.			X
• Communicate effectively with a range of audiences.			X
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• Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.			X
• Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions.			X
• Acquire and apply new knowledge as needed, using appropriate learning strategies.			X
• Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.			X

Make sure to provide one response per row.

Name: _____

Date: _____

Part II. Program Objectives. Check the box that most closely represents your opinion.

	Strongly Disagree	Neutral	Strongly Agree
The program objectives are consistent with the USMA mission.			X
The program objectives are consistent with the needs of the Army.			X
The program curriculum supports the program objectives.			X
The student outcomes are consistent with the program mission and objectives.			X
The program has a process for periodically assessing the achievement of its student outcomes.			X
The survey methods used by the program are effective.			X
The cadets in the program are aware of the program objectives.			X
The cadets are given an opportunity to provide their opinion about the program objectives.			X
The cadets are satisfied with the courses in the program.			X
The faculty are aware of the program objectives.			X
The faculty are given an opportunity to provide their opinion about the program objectives.			X

Make sure to provide one response per row.

Name: MARL

Date: 4/2023

Part III. Open Questions. Answer the questions below or provide other input as desired.

Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum? Please explain.

Major fair was great and helped many pick ChE. The 1 credit intro course is great if they can fit it in the Plebe year.
Do you use guest lecturers (alumni) from different life roles?
Moving MEB (CH362) to senior would be good even if 1st semester year long.
Moving Thermo (ME301) to Yearlong year would be good also—
adding more engineering earlier will help with retention and lighten the very full Cow year.

Do you have any suggestions to improve the advisory board meeting for next year?

Mix of alumni, ~~Veteran~~, civilian, and academic is great but keeping to about 10 people is best.

Please add any addition comments that you would like to make below.

Better communication with cadets about lounges/computer labs and other study rooms available in Bottlett and unlocked.

How much do cadets compete at AIChE regional meeting (ChemEcar, Research papers, Research posters, Jeopardy) or national (ChemE Sports, ChemE Case)

Research should be able to be used for Engineering Elective Credits

(the requirement that research is engineering is solvable with a few "rules")

Name: AARON HILL

Date: 14 APR 2023

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Name: AARON HU

Date: _____

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Name: AARON HILL

Date: _____

Part I. Student Outcomes. Review the data and then check the box in the column that most closely represents your opinion.

The cadets in the program are able to:	Strongly Disagree	Neutral	Strongly Agree
• Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.			X
• Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.			X
• Communicate effectively with a range of audiences.		X	
• Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.			X
• Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.			X
• Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions.			X
• Acquire and apply new knowledge as needed, using appropriate learning strategies.			X
• Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.			X

Make sure to provide one response per row.

Name: AARON HILL

Date: _____

Part II. Program Objectives. Check the box that most closely represents your opinion.

	Strongly Disagree	Neutral	Strongly Agree
The program objectives are consistent with the USMA mission.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The program objectives are consistent with the needs of the Army.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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The program has a process for periodically assessing the achievement of its student outcomes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The survey methods used by the program are effective.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The cadets in the program are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The cadets are given an opportunity to provide their opinion about the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Make sure to provide one response per row.

Name: Aaron Hill

Date: _____

Part III. Open Questions. Answer the questions below or provide other input as desired.

Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum? Please explain.

CONSIDER WHETHER OR NOT CHEM ENG MAJORS
NEED MC300.

CONSIDER ADDING SECOND SEMESTER OF ORGANIC
CHEMISTRY. THEY WANTED MORE APPLICATION.

Do you have any suggestions to improve the advisory board meeting for next year?

NO. GREAT EVENT. THANK YOU!

ON SECOND THOUGHT, IT WOULD BE GREAT TO TALK
WITH SOME OF YOUR FACULTY AS WELL.

Please add any addition comments that you would like to make below.

I DON'T UNDERSTAND HOW CH400 IS A COURSE. IT
SOUNDS AS THOUGH IT IS PREDOMINATELY REVIEW.

CADETS WANT A PLACE WHERE THEY CAN GET
TOGETHER AND STUDY. THEY ALSO ASKED
FOR COMPUTER SCREENS TO PLUG INTO FOR EFFICIENCY.
LARGE

CHEM. ENG. CLUB -- SOME ASKED FOR LUNCH LECTURES

PLUS, STUDENTS DON'T HAVE
TO SHOW UP ONCE THEY PASS THE FE?

Name: Ksondra Taner

Date: 4/14/23

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Name: Kisundra Tuney

Date: 4/14/23

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- Chemical reaction engineering
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- Process dynamics and control
- Modern experimental and computing techniques
- Process design

Make sure to familiarize yourself with this page.

Name: Kisondra TaverDate: 4/14/23

Part I. Student Outcomes. Review the data and then check the box in the column that most closely represents your opinion.

The cadets in the program are able to:	Strongly Disagree	Neutral	Strongly Agree
• Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.			✓
• Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.			✓
• Communicate effectively with a range of audiences.			✓
• Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.			✓
• Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.			✓
• Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions.			✓
• Acquire and apply new knowledge as needed, using appropriate learning strategies.			✓
• Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.			✓

Make sure to provide one response per row.

Name: Ksondra TanevDate: 4/14/23**Part II. Program Objectives.** Check the box that most closely represents your opinion.

	Strongly Disagree	Neutral	Strongly Agree
The program objectives are consistent with the USMA mission.			✓
The program objectives are consistent with the needs of the Army.			✓
The program curriculum supports the program objectives.			✓
The student outcomes are consistent with the program mission and objectives.			✓
The program has a process for periodically assessing the achievement of its student outcomes.			✓
The survey methods used by the program are effective.			✓
The cadets in the program are aware of the program objectives.			✓
The cadets are given an opportunity to provide their opinion about the program objectives.			✓
The cadets are satisfied with the courses in the program.			✓
The faculty are aware of the program objectives.			✓
The faculty are given an opportunity to provide their opinion about the program objectives.			✓

Make sure to provide one response per row.

Name: Kisundra Turner

Date: 4/14/23

Part III. Open Questions. Answer the questions below or provide other input as desired.

Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum? Please explain.

Some students have suggested replacing MC 300 and/or EESOL with another semester of Controls. On the other hand, even though survey results show less positive feedback, is much appreciated by students and they all found it very helpful to tie the program together and prepare them for the FE.

Do you have any suggestions to improve the advisory board meeting for next year?

Would be helpful to see data on covid - of the students that weren't able to take the FE in 2020, how many went back and took the exam?

Please add any addition comments that you would like to make below.

The students praise the accessibility of the faculty, and appreciate the support and mentorship within the department.

Name: Lerin Shipe

Date: 4/14/23

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Name: Shipe

Date: _____

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- Advance their careers through clear and precise technical communication.

Chemical Engineering General Program Outcomes (Outcomes 1-7): On completion of the chemical engineering program, our graduates demonstrate an ability to:

- [Student Outcome 1] Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- Communicate effectively with a range of audiences.
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- Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
- Acquire and apply new knowledge as needed, using appropriate learning strategies.

Chemical Engineering Curriculum Outcomes (Outcome 8): The program provides the graduate with a thorough grounding and working knowledge of the chemical sciences, including:

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- Safety and environmental factors
- Thermodynamics of physical and chemical equilibria
- Heat, mass, and momentum transfer
- Chemical reaction engineering
- Continuous and staged separation operations
- Process dynamics and control
- Modern experimental and computing techniques
- Process design

Make sure to familiarize yourself with this page.

Name: Shipe

Date: _____

Part I. Student Outcomes. Review the data and then check the box in the column that most closely represents your opinion.

The cadets in the program are able to:	Strongly Disagree	Neutral	Strongly Agree
• Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.			X
• Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.		X	
• Communicate effectively with a range of audiences.	X		
• Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.		X	
• Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.		X	
• Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions.		X	
• Acquire and apply new knowledge as needed, using appropriate learning strategies.		X	
• Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.		X	

Make sure to provide one response per row.

Name: Shipe

Date: _____

Part II. Program Objectives. Check the box that most closely represents your opinion.

	Strongly Disagree	Neutral	Strongly Agree
The program objectives are consistent with the USMA mission.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The program objectives are consistent with the needs of the Army.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The student outcomes are consistent with the program mission and objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The program has a process for periodically assessing the achievement of its student outcomes.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The survey methods used by the program are effective.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The cadets in the program are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The cadets are given an opportunity to provide their opinion about the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The cadets are satisfied with the courses in the program.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The faculty are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The faculty are given an opportunity to provide their opinion about the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Make sure to provide one response per row.

Name: Shipe

Date: 4/14/23

Part III. Open Questions. Answer the questions below or provide other input as desired.

Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum? Please explain.

Not anything new, but maybe re-examine the current structure of courses such as whether concepts in courses like Mass/Energy or Separations are being double covered in courses like Thermodynamics. Are all current courses needed or could space be made to offer new electives / fields in ChemE.

Do you have any suggestions to improve the advisory board meeting for next year?

I think it went well, however it seemed like the Freshies wanted some more time, like the Cons had, to speak with the board. The Freshies would have valuable feedback being near the end of the program.

Please add any addition comments that you would like to make below.

Thank you again for the opportunity. I think this has made real change and improved the ChemE program as a whole, and I'm excited to see how it has changed since I graduated.

Name: DONALD GLASCH

Date: 4-14-23

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Date: _____

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- Heat, mass, and momentum transfer
- Chemical reaction engineering
- Continuous and staged separation operations
- Process dynamics and control
- Modern experimental and computing techniques
- Process design

Make sure to familiarize yourself with this page.

Name: Dante WintersDate: 4/14/23

Part I. Student Outcomes. Review the data and then check the box in the column that most closely represents your opinion.

The cadets in the program are able to:	Strongly Disagree	Neutral	Strongly Agree
• Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.			✓
• Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.			✓
• Communicate effectively with a range of audiences.			✓
• Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.			✓
• Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.			✓
• Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions.			✓
• Acquire and apply new knowledge as needed, using appropriate learning strategies.			✓
• Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.			✓

Make sure to provide one response per row.

Name: _____

Date: _____

Part II. Program Objectives. Check the box that most closely represents your opinion.

	Strongly Disagree	Neutral	Strongly Agree
The program objectives are consistent with the USMA mission.			✓
The program objectives are consistent with the needs of the Army.			✓
The program curriculum supports the program objectives.			✓
The student outcomes are consistent with the program mission and objectives.			✓
The program has a process for periodically assessing the achievement of its student outcomes.			✓
The survey methods used by the program are effective.			✓
The cadets in the program are aware of the program objectives.			✓
The cadets are given an opportunity to provide their opinion about the program objectives.			✓
The cadets are satisfied with the courses in the program.			✓
The faculty are aware of the program objectives.			✓
The faculty are given an opportunity to provide their opinion about the program objectives.			✓

Make sure to provide one response per row.

Name: _____

Date: _____

Part III. Open Questions. Answer the questions below or provide other input as desired.

Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum? Please explain.

Permit A Separation
Course in Process Safety

Do you have any suggestions to improve the advisory board meeting for next year?

Offer Board Members a
Chance to our lecture
- permits in C1200

Please add any addition comments that you would like to make below.

Show New Board member
~~Father~~ THIS TIME TO
THE ALMA MATER &
Malek Visior Center —
Very ~~not~~ impressive!

Name: Michael Theising

Date: 4/14/23

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Name: Michael Thering

Date: 4/14/23

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- Process design

Make sure to familiarize yourself with this page.

Name: Michael Therising

Date: 4/19/23

Part I. Student Outcomes. Review the data and then check the box in the column that most closely represents your opinion.

The cadets in the program are able to:	Strongly Disagree	Neutral	Strongly Agree
• Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.			✓
• Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.			✓
• Communicate effectively with a range of audiences.			✓
• Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.			✓
• Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.			✓
• Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions.			✓
• Acquire and apply new knowledge as needed, using appropriate learning strategies.			✓
• Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.			✓

Make sure to provide one response per row.

Name: MICHAEL THEISINGDate: 4/14/23**Part II. Program Objectives.** Check the box that most closely represents your opinion.

	Strongly Disagree	Neutral	Strongly Agree
The program objectives are consistent with the USMA mission.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The program objectives are consistent with the needs of the Army.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The student outcomes are consistent with the program mission and objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The program has a process for periodically assessing the achievement of its student outcomes.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The survey methods used by the program are effective.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The cadets in the program are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The cadets are given an opportunity to provide their opinion about the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The cadets are satisfied with the courses in the program.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The faculty are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The faculty are given an opportunity to provide their opinion about the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Make sure to provide one response per row.

Name: MICHAEL THEISING

Date: 4/14/23

Part III. Open Questions. Answer the questions below or provide other input as desired.

Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum? Please explain.

Organic Chemistry 2. In my experience as a cadet, taking both semesters of organic chemistry helped drive concepts home. During the cadet discussion, they indicated they believed there is redundant thermodynamic and fluid mechanics info in the current curriculum. If it turns out that we're able to condense that learning and reduce eliminate a course, it would open the credit hours for Orgo 2. If that isn't possible, it may be valuable to suggest it as an elective.

Do you have any suggestions to improve the advisory board meeting for next year?

I might suggest leading with the discussion on the vision / mission / objectives.

Please add any addition comments that you would like to make below.

Emphasize to cadets that the course surveys are not about whether they like the course or if the course was "hard". It is about whether the course helps achieve student outcomes.

If the end of course surveys are used as evidence of achieving student outcomes, this is obviously very important. Less so if it's only used for internal purposes, but even then it helps steer decisions / focus efforts to address problems.

Name: Kelly Schultz

Date: 04/14/23

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- Chemical reaction engineering
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- Process dynamics and control
- Modern experimental and computing techniques
- Process design

Make sure to familiarize yourself with this page.

Name: Kelly Schulz

Date: 4/14/23

Part I. Student Outcomes. Review the data and then check the box in the column that most closely represents your opinion.

The cadets in the program are able to:	Strongly Disagree	Neutral	Strongly Agree
• Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.			✓
• Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.			✓
• Communicate effectively with a range of audiences.			✗
• Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.			✓
• Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.			✓
• Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions.			✓
• Acquire and apply new knowledge as needed, using appropriate learning strategies.			✗
• Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.			✓

Make sure to provide one response per row

Name: _____

Date: _____

Part II. Program Objectives. Check the box that most closely represents your opinion.

	Strongly Disagree	Neutral	Strongly Agree
The program objectives are consistent with the USMA mission.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The program objectives are consistent with the needs of the Army.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The student outcomes are consistent with the program mission and objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The survey methods used by the program are effective.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The cadets in the program are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The cadets are given an opportunity to provide their opinion about the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The cadets are satisfied with the courses in the program.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The faculty are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The faculty are given an opportunity to provide their opinion about the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Make sure to provide one response per row.

Name: Kelly Schutze

Date: 4/14/23

Part III. Open Questions. Answer the questions below or provide other input as desired.

Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum? Please explain.

Maybe not a course but additions to courses
are technical writing + UE economics + scientific
communication
add in more material traditionally in
Thermo II (fugacity, activity coefficients, etc)
possibly limit classes w/repetitive content
~~This may have been due to the question asked
to the class~~

Do you have any suggestions to improve the advisory board meeting for next year?

if possible have an easier way for
everyone to eat together to enable
conversations between board members & cadets

Please add any addition comments that you would like to make below.

Name: Michael DeForest

Date: 4/14/23

2023 Advisory Board Surveys

Welcome to our annual advisory board meeting. As you know, we consider each of you to be valued shareholders in our program. The meeting is our annual shareholder's meeting, where we show you our performance report and discuss methods of improving the program. This document is your official advisory board survey, and it is *extremely important to our program*. It is designed to do two things. First, the completed surveys provide *documentation* that you have been briefed on the performance of our cadets and the relevance of the program objectives, helping us maintain our accreditation. Second, it allows us to use your collective knowledge and experience to *identify areas* where we might be in need of improvement. The surveys are based in part on the data that we present to you during this meeting, and your responses are your "thumbs up or down" to the various performance indicators we are tracking. This survey is part of the assessment for *Academic Year 2022* (cadets who graduated in May 2022).

Instructions

- The survey pertains to student outcomes (Part I), program educational objectives (Part II), and program improvement (Part III). You will be given time during the day to answer the questions.
- For Part I, use the data to evaluate the attainment of our student outcomes. You will also meet with cadets, and the opinions you form of them might also influence your ratings. It is completely appropriate to use that information in the formation of your opinions.
- Part II pertains to the relevance, consistency, and cadet awareness of the program educational objectives. Your opinions and our discussions will help shape future revisions of these objectives.
- Part III contains some free-form questions where you can comment on the quality of the curriculum, the meeting itself or any other items you would like us to address.
- The survey is electronically fillable. Use the tab key to step though the form.
- *The surveys are due by the end of the day, 24 April 2023 or as soon as possible.* If you complete the survey after you leave, please email the electronic survey or mail the physical copy to us as soon as possible.

Name: _____

Date: _____

The mission of the chemical engineering program is to prepare commissioned leaders of character who are proficient in applying chemical and engineering principles to solve problems in a complex operational environment.

Chemical Engineering Program Objectives: During a career as commissioned officers in the United States Army and beyond, program graduates:

- Demonstrate effective leadership and chemical engineering expertise.
- Contribute to the solution of infrastructure or operational problems in a complex operational environment.
- Succeed in graduate school or other advanced study programs.
- Advance their careers through clear and precise technical communication.

Chemical Engineering General Program Outcomes (Outcomes 1-7): On completion of the chemical engineering program, our graduates demonstrate an ability to:

- [Student Outcome 1] Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- Communicate effectively with a range of audiences.
- Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
- Acquire and apply new knowledge as needed, using appropriate learning strategies.

Chemical Engineering Curriculum Outcomes (Outcome 8): The program provides the graduate with a thorough grounding and working knowledge of the chemical sciences, including:

- Chemistry
- Material and energy balances
- Safety and environmental factors
- Thermodynamics of physical and chemical equilibria
- Heat, mass, and momentum transfer
- Chemical reaction engineering
- Continuous and staged separation operations
- Process dynamics and control
- Modern experimental and computing techniques
- Process design

Make sure to familiarize yourself with this page.

Name: Michael DeForest

Date: _____

Part I. Student Outcomes. Review the data and then check the box in the column that most closely represents your opinion.

The cadets in the program are able to:	Strongly Disagree	Neutral	Strongly Agree
• Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.			✓
• Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.		✓	
• Communicate effectively with a range of audiences.			✓
• Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.			✓
• Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.			✓
• Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions.		✓	
• Acquire and apply new knowledge as needed, using appropriate learning strategies.		✓	
• Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.			✓

Make sure to provide one response per row.

Name: _____

Date: _____

Part II. Program Objectives. Check the box that most closely represents your opinion.

	Strongly Disagree	Neutral	Strongly Agree
The program objectives are consistent with the USMA mission.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The program objectives are consistent with the needs of the Army.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The student outcomes are consistent with the program mission and objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The program has a process for periodically assessing the achievement of its student outcomes.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The survey methods used by the program are effective.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The cadets in the program are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The cadets are given an opportunity to provide their opinion about the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The cadets are satisfied with the courses in the program.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The faculty are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The faculty are given an opportunity to provide their opinion about the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Make sure to provide one response per row.

Name: Michael DeForest

Date: 4/14/23

Part III. Open Questions. Answer the questions below or provide other input as desired.

Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum? Please explain.

Intro to Chemical Engineering class (1st semester Yuk year) to show examples of Chem E use w the Army/Private Industry. Let Firsties brief their senior projects/Research TGTs, and in some classes but focus on examples in the actual Army where Chemical Engineering was used.

Do you have any suggestions to improve the advisory board meeting for next year?

1. Get NON-alumni to a meal in mess hall (on Thursday) to see it and understand
2. Get academy tour (Berrett Hall, Barracks, Arvin)

Please add any addition comments that you would like to make below.

A certificate or something to recognize people who have been here for a long time, ending their service, New people, etc. Ron has been here for 20 years, how are we recognizing his efforts.

Name: GAUTHAM KRISHNAMOORTHY

Date: 4/14/2023

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Name: Gautham . K

Date: 4/14/23

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- Advance their careers through clear and precise technical communication.

Chemical Engineering General Program Outcomes (Outcomes 1-7): On completion of the chemical engineering program, our graduates demonstrate an ability to:

- [Student Outcome 1] Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- Communicate effectively with a range of audiences.
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- Heat, mass, and momentum transfer
- Chemical reaction engineering
- Continuous and staged separation operations
- Process dynamics and control
- Modern experimental and computing techniques
- Process design

Make sure to familiarize yourself with this page.

Name: Gaulham - KDate: 4/14

Part I. Student Outcomes. Review the data and then check the box in the column that most closely represents your opinion.

The cadets in the program are able to:	Strongly Disagree	Neutral	Strongly Agree
• Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.			✓
• Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.			✓
• Communicate effectively with a range of audiences.			✓
• Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.			✓
• Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.			✓
• Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions.			✓
• Acquire and apply new knowledge as needed, using appropriate learning strategies.			✓
• Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.			✓

Make sure to provide one response per row.

Name: Gaultam KDate: 4/14**Part II. Program Objectives.** Check the box that most closely represents your opinion.

	Strongly Disagree	Neutral	Strongly Agree
The program objectives are consistent with the USMA mission.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The program objectives are consistent with the needs of the Army.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The student outcomes are consistent with the program mission and objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The program has a process for periodically assessing the achievement of its student outcomes.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The survey methods used by the program are effective.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The cadets in the program are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The cadets are given an opportunity to provide their opinion about the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The cadets are satisfied with the courses in the program.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The faculty are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The faculty are given an opportunity to provide their opinion about the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Make sure to provide one response per row.

Name: Gautham.k

Date: 4/14

Part III. Open Questions. Answer the questions below or provide other input as desired.

Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum? Please explain.

Your cadets are exposed to ~~some~~^{several} computing tools throughout the curriculum.

Eg: MA103, CY105, MA 206; and in many CH courses.

~~Instead of familiarizing them to several software~~

Eg: Matlab, MatLab, Mathematica, would it be useful to stick to one (preferably open-source) tool throughout?

Eg: Python or R

Do you have any suggestions to improve the advisory board meeting for next year?

None. Very well organized!

Please add any addition comments that you would like to make below.

Thanks for the invite!

You have a great, well-run program!