

2021 Cadet Program Briefing Surveys (Completed by Firsties in AY22-2)

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- Review the chemical engineering program objectives on page two, and complete Part 2 of the survey. For this part of the survey, we are interested in your opinions on the relevance of the objectives and their consistency with the Academy mission and needs of the Army. Again, for each row, mark the survey form with an "x" in the box that most closely represents your opinion and enter one response per row.
- There are some free-form questions on the last page for you to comment on the quality of the curriculum, the meeting itself or any other items you would like us to address.
- We will consolidate the data, include it in our program assessment, and review it with you in a separate meeting.
- The surveys are due by COB 15 January 2022.
- Add your signature or digital signature in the space below:

BAILEY.DORIAN.ALEXAN DER WASHINGTON.15453653 20	Digitally signed by BAILEY.DORIAN.ALEXANDER WASHINGTON.1545365320 Date: 2022.01.14 09:47:56 -05'00'
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Mission: 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 Student Outcomes: On completion of the chemical engineering program, our graduates will be able to:

- 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.
- Understand the chemical engineering curriculum, 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.

Name: Dorian Bailey

Date: 04JAN22

Part I. Student Outcomes. Check the box that most closely represents your opinion.

The cadets who graduated last year have demonstrated that they	Strongly Disagree		Neutral		Strongly Agree
<ul style="list-style-type: none"> Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Communicate effectively with a range of audiences. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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<ul style="list-style-type: none"> Acquire and apply new knowledge as needed, using appropriate learning strategies. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Understand the chemical engineering curriculum. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Name: Dorian Bailey

Date: 04JAN22

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"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The survey methods used by the program are effective.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The cadets in the program are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The cadets are given an opportunity to provide their opinion about the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The cadets are satisfied with the courses in the program.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The faculty are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The faculty are given an opportunity to provide their opinion about the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Name: Dorian Bailey

Date: 04JAN22

Part III. Open Questions.

Are we teaching the right classes? Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum?

I think a mechanics of materials of class would be good material to cover. I took one and found it very helpful in understanding engineering design problems.

Are we asking the right questions? Do you have any suggestions to improve the survey for next year?

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

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- Add your signature or digital signature in the space below:

BARTRAM.CLARA. JOAN.1545365762	Digitally signed by BARTRAM.CLARA.JOAN.154536 5762 Date: 2022.01.04 22:29:13 -05'00'
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Name: Clara Bartram

Date: 04 JAN 2022

Part I. Student Outcomes. Check the box that most closely represents your opinion.

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<ul style="list-style-type: none"> Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Communicate effectively with a range of audiences. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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<ul style="list-style-type: none"> Understand the chemical engineering curriculum. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Clara Bartram

Date: 04 JAN 2022

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"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 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 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Name: Clara Bartram

Date: 04 JAN 2022

Part III. Open Questions.

Are we teaching the right classes? Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum?

I think that USMA teaches the right courses and the breakdown looks solid. I understand the intent behind the Chem E program not having a capstone project but rather allowing cadets to conduct research through different capstone projects throughout. However, I do see real value in the capstones that Mechanical, Civil, and Electrical Engineering cadets participate in, so much so that I tried to fit in a Mechanical Engineering capstone as an elective. If we were able to focus on design and communication in a year long capstone course with actual clients, I think that we would gain a lot in terms of teamwork, communication, and design objectives. We are under the design credit average currently and a senior capstone could be a way to improve the design experience we have as undergraduate Chemical Engineers.

Are we asking the right questions? Do you have any suggestions to improve the survey for next year?

I believe this survey is effective.

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

No additional comments

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- Add your signature or digital signature in the space below:

BATT.THOMAS.AL EXANDER.1545365 851	Digitally signed by BATT.THOMAS.ALEXANDER.15 45365851 Date: 2022.01.04 14:16:38 -05'00'
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 - Process design.

Name: Thomas Batt

Date: 04JAN22

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<ul style="list-style-type: none"> Acquire and apply new knowledge as needed, using appropriate learning strategies. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Understand the chemical engineering curriculum. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Thomas Batt

Date: 04JAN22

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"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Name: Thomas Batt

Date: 04JAN22

Part III. Open Questions.

Are we teaching the right classes? Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum?

I think the broad spectrum of chemical engineering classes are correctly chosen given the profession that West Point Chemical Engineers are entering. The current curriculum doesn't provide an equal education to civilian competitors with respect to some niche chemical engineering course like Physical Chemistry, however it is justified due to the broader education that West Point Chemical Engineers will need to apply in military service.

Are we asking the right questions? Do you have any suggestions to improve the survey for next year?

I think the current questions give every respondent to speak their opinion. If somebody has something burning that they want to say, then it wouldn't be overlooked.

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

N/A

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CURTIN.MACKENZIE.COLEEN.1545503804	Digitally signed by CURTIN.MACKENZIE.COLEEN. 1545503804 Date: 2022.01.07 08:39:02 -05'00'
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Name: Mackenzie Curtin

Date: 07JAN2022

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The cadets who graduated last year have demonstrated that they	Strongly Disagree		Neutral		Strongly Agree
<ul style="list-style-type: none"> Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Communicate effectively with a range of audiences. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions. 	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Acquire and apply new knowledge as needed, using appropriate learning strategies. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Understand the chemical engineering curriculum. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Name: Mackenzie Curtin

Date: 07JAN2022

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"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The student outcomes are consistent with the program mission and objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The program has a process for periodically assessing the achievement of its student outcomes.	<input type="checkbox"/>	<input type="checkbox"/>	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>
The cadets in the program are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The cadets are given an opportunity to provide their opinion about the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The faculty are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Mackenzie Curtin

Date: 07JAN2022

Part III. Open Questions.

Are we teaching the right classes? Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum?

I think that implementing the FE reference manual better into the courses would greatly benefit students. Becoming familiar with the reference manual through the program would allow students to focus more on studying during CH400 rather than focusing on navigating the references.

Are we asking the right questions? Do you have any suggestions to improve the survey for next year?

N/A

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

N/A

2021 Cadet Program Briefing Surveys (Completed by Firsties in AY22-2)

This is your annual cadet survey for the **2021** program assessment, and it is very important for continued ABET accreditation. The survey is designed to do three things. First, it provides documentation that you have been made aware of the performance of our previous cadets on our student outcomes. Second, it serves to document you are aware of the program educational objectives. Third, it allows us to use your collective opinions to help identify areas where we might need improvement.

Instructions

- Write or enter your name and date on the top of each page.
- The second page of this handout contains a listing of program objectives and student outcomes. Please read this page to become oriented to the process.
- Review the data pertaining to the achievement student outcomes by our **2021** program graduates, and complete Part 1 of the survey. Your survey responses should be based on the data presented. For each row, mark the survey form with an "x" in the box that most closely represents your opinion. Enter one response per row.
- Review the chemical engineering program objectives on page two, and complete Part 2 of the survey. For this part of the survey, we are interested in your opinions on the relevance of the objectives and their consistency with the Academy mission and needs of the Army. Again, for each row, mark the survey form with an "x" in the box that most closely represents your opinion and enter one response per row.
- There are some free-form questions on the last page for you to comment on the quality of the curriculum, the meeting itself or any other items you would like us to address.
- We will consolidate the data, include it in our program assessment, and review it with you in a separate meeting.
- The surveys are due by COB 15 January 2022.
- Add your signature or digital signature in the space below:

DAVIS.JORDAN.MICHAEL.1472569178	Digitally signed by DAVIS.JORDAN.MICHAEL.1472569178 Date: 2022.01.14 21:23:45 -05'00'
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Mission: 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 Student Outcomes: On completion of the chemical engineering program, our graduates will be able to:

- 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.
- Understand the chemical engineering curriculum, 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.

Name: Jordan Davis

Date: 14JAN2022

Part I. Student Outcomes. Check the box that most closely represents your opinion.

The cadets who graduated last year have demonstrated that they	Strongly Disagree		Neutral		Strongly Agree
<ul style="list-style-type: none"> Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Communicate effectively with a range of audiences. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Acquire and apply new knowledge as needed, using appropriate learning strategies. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Understand the chemical engineering curriculum. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Name: Jordan Davis

Date: 14JAN2022

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

Name: Jordan Davis

Date: 14JAN2022

Part III. Open Questions.

Are we teaching the right classes? Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum?

Are we asking the right questions? Do you have any suggestions to improve the survey for next year?

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

2021 Cadet Program Briefing Surveys (Completed by Firsties in AY22-2)

This is your annual cadet survey for the **2021** program assessment, and it is very important for continued ABET accreditation. The survey is designed to do three things. First, it provides documentation that you have been made aware of the performance of our previous cadets on our student outcomes. Second, it serves to document you are aware of the program educational objectives. Third, it allows us to use your collective opinions to help identify areas where we might need improvement.

Instructions

- Write or enter your name and date on the top of each page.
- The second page of this handout contains a listing of program objectives and student outcomes. Please read this page to become oriented to the process.
- Review the data pertaining to the achievement student outcomes by our **2021** program graduates, and complete Part 1 of the survey. Your survey responses should be based on the data presented. For each row, mark the survey form with an "x" in the box that most closely represents your opinion. Enter one response per row.
- Review the chemical engineering program objectives on page two, and complete Part 2 of the survey. For this part of the survey, we are interested in your opinions on the relevance of the objectives and their consistency with the Academy mission and needs of the Army. Again, for each row, mark the survey form with an "x" in the box that most closely represents your opinion and enter one response per row.
- There are some free-form questions on the last page for you to comment on the quality of the curriculum, the meeting itself or any other items you would like us to address.
- We will consolidate the data, include it in our program assessment, and review it with you in a separate meeting.
- The surveys are due by COB 15 January 2022.
- Add your signature or digital signature in the space below:

DAY.DUNCAN.ROBERTS.1545507079	Digitally signed by DAY.DUNCAN.ROBERTS.15455 07079 Date: 2022.01.04 14:18:38 -05'00'
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Mission: 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 Student Outcomes: On completion of the chemical engineering program, our graduates will be able to:

- 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.
- Understand the chemical engineering curriculum, 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.

Name: Duncan Day

Date: 02JAN22

Part I. Student Outcomes. Check the box that most closely represents your opinion.

The cadets who graduated last year have demonstrated that they	Strongly Disagree		Neutral		Strongly Agree
<ul style="list-style-type: none"> Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Communicate effectively with a range of audiences. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Acquire and apply new knowledge as needed, using appropriate learning strategies. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Understand the chemical engineering curriculum. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Duncan Day

Date: 05JAN22

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"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 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 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 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 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 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The faculty are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Duncan Day

Date: 05JAN22

Part III. Open Questions.

Are we teaching the right classes? Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum?

I believe that the right classes are being taught currently because the trends are all increasing in every category of the FEE.

Are we asking the right questions? Do you have any suggestions to improve the survey for next year?

It would be useful to see how graduates who get out of the Army at the 5-year mark view the program as they enter the civilian workforce. Additionally could include graduates entering into a graduate degree program.

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

None.

2021 Cadet Program Briefing Surveys (Completed by Firsties in AY22-2)

This is your annual cadet survey for the **2021** program assessment, and it is very important for continued ABET accreditation. The survey is designed to do three things. First, it provides documentation that you have been made aware of the performance of our previous cadets on our student outcomes. Second, it serves to document you are aware of the program educational objectives. Third, it allows us to use your collective opinions to help identify areas where we might need improvement.

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- There are some free-form questions on the last page for you to comment on the quality of the curriculum, the meeting itself or any other items you would like us to address.
- We will consolidate the data, include it in our program assessment, and review it with you in a separate meeting.
- The surveys are due by COB 15 January 2022.
- Add your signature or digital signature in the space below:

KIM.DANIEL.JIS
OO.1545668161

Digitally signed by
KIM.DANIEL.JISOO.1545668161
Date: 2022.01.13 12:30:21 -05'00'

Mission: 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:

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- Advance their careers through clear and precise technical communication.

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 - 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.

Name: Daniel J. Kim

Date: 13JAN22

Part I. Student Outcomes. Check the box that most closely represents your opinion.

The cadets who graduated last year have demonstrated that they	Strongly Disagree		Neutral		Strongly Agree
<ul style="list-style-type: none"> Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Communicate effectively with a range of audiences. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Acquire and apply new knowledge as needed, using appropriate learning strategies. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Understand the chemical engineering curriculum. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Name: Daniel J. Kim

Date: 13JAN22

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"/>	<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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The program has a process for periodically assessing the achievement of its student outcomes.	<input type="checkbox"/>	<input type="checkbox"/>	<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 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The cadets are given an opportunity to provide their opinion about the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The faculty are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Daniel J. Kim

Date: 13JAN22

Part III. Open Questions.

Are we teaching the right classes? Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum?

The current courses fit the program objectives.

Are we asking the right questions? Do you have any suggestions to improve the survey for next year?

N/A

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

N/A

2021 Cadet Program Briefing Surveys (Completed by Firsties in AY22-2)

This is your annual cadet survey for the **2021** program assessment, and it is very important for continued ABET accreditation. The survey is designed to do three things. First, it provides documentation that you have been made aware of the performance of our previous cadets on our student outcomes. Second, it serves to document you are aware of the program educational objectives. Third, it allows us to use your collective opinions to help identify areas where we might need improvement.

Instructions

- Write or enter your name and date on the top of each page.
- The second page of this handout contains a listing of program objectives and student outcomes. Please read this page to become oriented to the process.
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- Review the chemical engineering program objectives on page two, and complete Part 2 of the survey. For this part of the survey, we are interested in your opinions on the relevance of the objectives and their consistency with the Academy mission and needs of the Army. Again, for each row, mark the survey form with an "x" in the box that most closely represents your opinion and enter one response per row.
- There are some free-form questions on the last page for you to comment on the quality of the curriculum, the meeting itself or any other items you would like us to address.
- We will consolidate the data, include it in our program assessment, and review it with you in a separate meeting.
- The surveys are due by COB 15 January 2022.
- Add your signature or digital signature in the space below:

KNIGHT.THOMAS. EDGAR.III.1545670 840	Digitally signed by KNIGHT.THOMAS.EDGAR.III.15 45670840 Date: 2022.01.04 14:11:26 -05'00'
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Mission: 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 Student Outcomes: On completion of the chemical engineering program, our graduates will be able to:

- 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.
- Understand the chemical engineering curriculum, 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.

Name: Thomas Knight

Date: 04JAN2022

Part I. Student Outcomes. Check the box that most closely represents your opinion.

The cadets who graduated last year have demonstrated that they	Strongly Disagree		Neutral		Strongly Agree
<ul style="list-style-type: none"> Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Communicate effectively with a range of audiences. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Acquire and apply new knowledge as needed, using appropriate learning strategies. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Understand the chemical engineering curriculum. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Thomas Knight

Date: 04JAN2022

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"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The survey methods used by the program are effective.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The cadets in the program are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The cadets are given an opportunity to provide their opinion about the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The faculty are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Name: Thomas Knight

Date: 04JAN2022

Part III. Open Questions.

Are we teaching the right classes? Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum?

I believe that as far as engineering and problem-solving are concerned, the current curriculum absolutely covers all bases. So far, there has been no course that addressed ethics of the profession or social/political/economic considerations; I understand that CH400 and CH402 will go into detail on these topics but cannot give an opinion on their effectiveness because they are 8th semester courses.

Are we asking the right questions? Do you have any suggestions to improve the survey for next year?

I have no suggestions to improve the survey, it concisely addresses all major goals of the program.

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

N/A.

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- There are some free-form questions on the last page for you to comment on the quality of the curriculum, the meeting itself or any other items you would like us to address.
- We will consolidate the data, include it in our program assessment, and review it with you in a separate meeting.
- The surveys are due by COB 15 January 2022.
- Add your signature or digital signature in the space below:

LEE.EVAN.K	Digitally signed by
.1545620762	LEE.EVAN.K.1545620762
	Date: 2022.01.13
	17:22:27 -05'00'

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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.

Name: Evan Lee

Date: 13JAN2022

Part I. Student Outcomes. Check the box that most closely represents your opinion.

The cadets who graduated last year have demonstrated that they	Strongly Disagree		Neutral		Strongly Agree
<ul style="list-style-type: none"> Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Communicate effectively with a range of audiences. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Acquire and apply new knowledge as needed, using appropriate learning strategies. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Understand the chemical engineering curriculum. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Evan Lee

Date: 13JAN2022

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"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 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 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 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 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 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The faculty are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Evan Lee

Date: 13JAN2022

Part III. Open Questions.

Are we teaching the right classes? Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum?

Yes. I think the classes in the current curriculum are very good.

Are we asking the right questions? Do you have any suggestions to improve the survey for next year?

More open-ended questions related to coursework. Also, possibly moving the survey to be taken post-FE assessment.

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

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- The surveys are due by COB 15 January 2022.
- Add your signature or digital signature in the space below:

LYNCH.DANIELL	Digitally signed by
E.ALYCE.124856	LYNCH.DANIELLE.ALYCE.12
0505	48560505
	Date: 2022.01.13 18:30:31
	-05'00'

Mission: 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.

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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.

Name: Danielle Lynch

Date: 13 Jan 21

Part I. Student Outcomes. Check the box that most closely represents your opinion.

The cadets who graduated last year have demonstrated that they	Strongly Disagree		Neutral		Strongly Agree
<ul style="list-style-type: none"> Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Communicate effectively with a range of audiences. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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<ul style="list-style-type: none"> Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Acquire and apply new knowledge as needed, using appropriate learning strategies. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Understand the chemical engineering curriculum. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Name: Danielle Lynch

Date: 13 Jan 21

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"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The faculty are given an opportunity to provide their opinion about the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Danielle Lynch

Date: 13 Jan 21

Part III. Open Questions.

Are we teaching the right classes? Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum?

Yes, I think we are teaching the right classes. I think adding more chemical engineering application or a broader perspective to the earlier classes of Mass and Energy Balances or Separations would make the classes easier to digest. I appreciated Reactions, Heat and Mass, Chemical Engineering Laboratory, and Chemical Engineering Professional Practice the most because I understand their direct applications.

Are we asking the right questions? Do you have any suggestions to improve the survey for next year?

Yes, we are asking the right questions.

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

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- Add your signature or digital signature in the space below:

MEINKE.JONATHA N.THOMAS.154566 2597	Digitally signed by MEINKE.JONATHAN.THOMAS.1 545662597 Date: 2022.01.13 20:02:35 -05'00'
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 - Modern experimental and computing techniques.
 - Process design.

Name: Jonathan Meinke

Date: 13JAN

Part I. Student Outcomes. Check the box that most closely represents your opinion.

The cadets who graduated last year have demonstrated that they	Strongly Disagree		Neutral		Strongly Agree
<ul style="list-style-type: none"> Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Communicate effectively with a range of audiences. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Acquire and apply new knowledge as needed, using appropriate learning strategies. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Understand the chemical engineering curriculum. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Jonathan Meinke

Date: 13 JAN

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"/>	<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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 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 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"/>	<input type="checkbox"/>	<input type="checkbox"/>
The cadets in the program are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The faculty are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Jonathan Meinke

Date: 13 JAN

Part III. Open Questions.

Are we teaching the right classes? Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum?

There should be a safety and Ethics course included in the curriculum. We do the SACHE Certifications but students would benefit from further in depth discussions on these topics.

Are we asking the right questions? Do you have any suggestions to improve the survey for next year?

No

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

2021 Cadet Program Briefing Surveys (Completed by Firsties in AY22-2)

This is your annual cadet survey for the **2021** program assessment, and it is very important for continued ABET accreditation. The survey is designed to do three things. First, it provides documentation that you have been made aware of the performance of our previous cadets on our student outcomes. Second, it serves to document you are aware of the program educational objectives. Third, it allows us to use your collective opinions to help identify areas where we might need improvement.

Instructions

- Write or enter your name and date on the top of each page.
- The second page of this handout contains a listing of program objectives and student outcomes. Please read this page to become oriented to the process.
- Review the data pertaining to the achievement student outcomes by our **2021** program graduates, and complete Part 1 of the survey. Your survey responses should be based on the data presented. For each row, mark the survey form with an "x" in the box that most closely represents your opinion. Enter one response per row.
- Review the chemical engineering program objectives on page two, and complete Part 2 of the survey. For this part of the survey, we are interested in your opinions on the relevance of the objectives and their consistency with the Academy mission and needs of the Army. Again, for each row, mark the survey form with an "x" in the box that most closely represents your opinion and enter one response per row.
- There are some free-form questions on the last page for you to comment on the quality of the curriculum, the meeting itself or any other items you would like us to address.
- We will consolidate the data, include it in our program assessment, and review it with you in a separate meeting.
- The surveys are due by COB 15 January 2022.
- Add your signature or digital signature in the space below:

MORRIS.JACKSON
.TODD.1545546465

Digitally signed by
MORRIS.JACKSON.TODD.1545
546465
Date: 2022.01.04 21:17:37 -05'00'

Mission: 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 Student Outcomes: On completion of the chemical engineering program, our graduates will be able to:

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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.
- 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.
- Understand the chemical engineering curriculum, 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.

Name: Jackson T. Morris

Date: 4 Jan 2022

Part I. Student Outcomes. Check the box that most closely represents your opinion.

The cadets who graduated last year have demonstrated that they	Strongly Disagree		Neutral		Strongly Agree
<ul style="list-style-type: none"> Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Communicate effectively with a range of audiences. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Acquire and apply new knowledge as needed, using appropriate learning strategies. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Understand the chemical engineering curriculum. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Jackson T. Morris

Date: 4 Jan 2022

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"/>	<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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The student outcomes are consistent with the program mission and objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The program has a process for periodically assessing the achievement of its student outcomes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The survey methods used by the program are effective.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The cadets in the program are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The cadets are satisfied with the courses in the program.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The faculty are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Jackson T. Morris

Date: 4 Jan 2021

Part III. Open Questions.

Are we teaching the right classes? Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum?

Yes, the right classes are being taught. I believe that ME480 should be added to the Chemical Engineering curriculum. The course goes into great detail about the three forms of heat transfer (conduction, convection, radiation). The course is designed very well with meaningful labs and projects that test course concepts but also require the usage of programs such as Matlab and Solid-works. I believe ME480 is a better class than CH485. The book, concepts taught, and flow of the class are all better in ME480. The class is closely aligned with what is expected on the FE regarding heat transfer knowledge. These concepts can be referenced in the heat transfer section of the FE manual. ME480 does not discuss mass transfer which is an important part of Chemical Engineering. More of a focus on mass transfer in CH485 and the addition of ME480 to the Chemical Engineering department could be a good move by the program. 

Are we asking the right questions? Do you have any suggestions to improve the survey for next year?

Yes, the right questions are being asked. I believe an improvement to the survey could be asking about all the classes in the department. End of course surveys are great but I have a different perspective on certain classes now than what I did when I took them. A broader overview of all the classes on the ones we felt were beneficial or not so much could be great insight.

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

N/A

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- Review the chemical engineering program objectives on page two, and complete Part 2 of the survey. For this part of the survey, we are interested in your opinions on the relevance of the objectives and their consistency with the Academy mission and needs of the Army. Again, for each row, mark the survey form with an "x" in the box that most closely represents your opinion and enter one response per row.
- There are some free-form questions on the last page for you to comment on the quality of the curriculum, the meeting itself or any other items you would like us to address.
- We will consolidate the data, include it in our program assessment, and review it with you in a separate meeting.
- The surveys are due by COB 15 January 2022.
- Add your signature or digital signature in the space below:

MOSELEY.HOPE	Digitally signed by
.JOY.1545546660	MOSELEY.HOPE.JOY.15455466
	60
	Date: 2022.01.06 11:35:46 -05'00'

Mission: 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:

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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.

Name: Hope Moseley

Date: 6 JAN 22

Part I. Student Outcomes. Check the box that most closely represents your opinion.

The cadets who graduated last year have demonstrated that they	Strongly Disagree		Neutral		Strongly Agree
<ul style="list-style-type: none"> Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Communicate effectively with a range of audiences. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Acquire and apply new knowledge as needed, using appropriate learning strategies. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Understand the chemical engineering curriculum. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Name: Hope Moseley

Date: 6 JAN 22

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"/>	<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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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The student outcomes are consistent with the program mission and objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The program has a process for periodically assessing the achievement of its student outcomes.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The cadets in the program are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The cadets are given an opportunity to provide their opinion about the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The cadets are satisfied with the courses in the program.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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The faculty are given an opportunity to provide their opinion about the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Name: Hope Moseley

Date: 6 JAN 22

Part III. Open Questions.

Are we teaching the right classes? Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum?

To my understanding of the assessment data we are teaching the correct courses; however, in my opinion I would like to see more biomedical, biochemical, or bioengineering courses along with physical chemistry as compared to nationwide programs.

Are we asking the right questions? Do you have any suggestions to improve the survey for next year?

I believe the right questions are being asked.

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

All instructors in the Department of Chemical Engineering at USMA care for the success and level of understanding in each one of their students, and selflessly sacrifice time and effort to ensure that each USMA ChemE who wants to succeed and gain better understanding in each of their respective taught subjects will succeed.

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- The surveys are due by COB 15 January 2022.
- Add your signature or digital signature in the space below:

O'KEEFE.KIRSTEN. JOY.1545548816	Digitally signed by O'KEEFE.KIRSTEN.JOY.154554 8816 Date: 2022.01.04 15:50:48 -05'00'
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Mission: 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.

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 - 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.

Name: Kirsten O'Keefe

Date: 4 Jan 2022

Part I. Student Outcomes. Check the box that most closely represents your opinion.

The cadets who graduated last year have demonstrated that they	Strongly Disagree		Neutral		Strongly Agree
<ul style="list-style-type: none"> Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Communicate effectively with a range of audiences. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Acquire and apply new knowledge as needed, using appropriate learning strategies. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Understand the chemical engineering curriculum. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Kirsten O'Keefe

Date: 4 Jan 2022

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"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The program has a process for periodically assessing the achievement of its student outcomes.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The cadets in the program are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The faculty are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Kirsten O'Keefe

Date: 4 Jan 2022

Part III. Open Questions.

Are we teaching the right classes? Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum?

Yes, the USMA Chemical Engineering program is fairly similar to the national statistics with credit hours. Additionally, USMA cadets typically have a greater percentage pass rate of the FEE than the national average, which indicates that USMA is teaching the right classes. If there one class was replaced with another, it would be MC300; students indicate the worst scores from semester surveys. In addition, only 1/3 of national average schools require a civil engineering credit. The national average is 0.9 credits, compared to USMA's 3.0 credits.

Are we asking the right questions? Do you have any suggestions to improve the survey for next year?

These questions correlate to the program objectives, so they are the right questions to ask.

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

The instructors at USMA are exceptional, helping USMA students excel through the chemical engineering program. They are always willing to spend extra time tutoring and mentoring cadets, while allowing research opportunities as well.

2021 Cadet Program Briefing Surveys (Completed by Firsties in AY22-2)

This is your annual cadet survey for the **2021** program assessment, and it is very important for continued ABET accreditation. The survey is designed to do three things. First, it provides documentation that you have been made aware of the performance of our previous cadets on our student outcomes. Second, it serves to document you are aware of the program educational objectives. Third, it allows us to use your collective opinions to help identify areas where we might need improvement.

Instructions

- Write or enter your name and date on the top of each page.
- The second page of this handout contains a listing of program objectives and student outcomes. Please read this page to become oriented to the process.
- Review the data pertaining to the achievement student outcomes by our **2021** program graduates, and complete Part 1 of the survey. Your survey responses should be based on the data presented. For each row, mark the survey form with an "x" in the box that most closely represents your opinion. Enter one response per row.
- Review the chemical engineering program objectives on page two, and complete Part 2 of the survey. For this part of the survey, we are interested in your opinions on the relevance of the objectives and their consistency with the Academy mission and needs of the Army. Again, for each row, mark the survey form with an "x" in the box that most closely represents your opinion and enter one response per row.
- There are some free-form questions on the last page for you to comment on the quality of the curriculum, the meeting itself or any other items you would like us to address.
- We will consolidate the data, include it in our program assessment, and review it with you in a separate meeting.
- The surveys are due by COB 15 January 2022.
- Add your signature or digital signature in the space below:

PINCOT.ANDRE. MILO.1545587781	Digitally signed by PINCOT.ANDRE.MILO.15455877 81 Date: 2022.01.04 22:31:24 -05'00'
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Mission: 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 Student Outcomes: On completion of the chemical engineering program, our graduates will be able to:

- 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.
- Understand the chemical engineering curriculum, 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.

Name: André Pincot

Date: 01/04/2022

Part I. Student Outcomes. Check the box that most closely represents your opinion.

The cadets who graduated last year have demonstrated that they	Strongly Disagree		Neutral		Strongly Agree
<ul style="list-style-type: none"> Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Communicate effectively with a range of audiences. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Acquire and apply new knowledge as needed, using appropriate learning strategies. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Understand the chemical engineering curriculum. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Name: André Pincot

Date: 01/04/2022

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"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The survey methods used by the program are effective.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The cadets are given an opportunity to provide their opinion about the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The faculty are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: André Pincot

Date: 01/04/2022

Part III. Open Questions.

Are we teaching the right classes? Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum?

As it stands, I believe that the current course selection is satisfactory. While we do somewhat depart from national norms (particularly in Chemistry), I believe that the differences present in our Chemical Engineering route are sensible considering our military profession. Moreover, I do not believe that the outstanding differences prevent graduates from attaining successful career outcomes after the military.

Are we asking the right questions? Do you have any suggestions to improve the survey for next year?

I believe that this survey presented a comprehensive inventory of relevant questions. At the moment, it suffices as is.

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

Many thanks to the instructors of the Chemical Engineering department for the consistent quality of their instruction.

2021 Cadet Program Briefing Surveys (Completed by Firsties in AY22-2)

This is your annual cadet survey for the **2021** program assessment, and it is very important for continued ABET accreditation. The survey is designed to do three things. First, it provides documentation that you have been made aware of the performance of our previous cadets on our student outcomes. Second, it serves to document you are aware of the program educational objectives. Third, it allows us to use your collective opinions to help identify areas where we might need improvement.

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- Review the chemical engineering program objectives on page two, and complete Part 2 of the survey. For this part of the survey, we are interested in your opinions on the relevance of the objectives and their consistency with the Academy mission and needs of the Army. Again, for each row, mark the survey form with an "x" in the box that most closely represents your opinion and enter one response per row.
- There are some free-form questions on the last page for you to comment on the quality of the curriculum, the meeting itself or any other items you would like us to address.
- We will consolidate the data, include it in our program assessment, and review it with you in a separate meeting.
- The surveys are due by COB 15 January 2022.
- Add your signature or digital signature in the space below:

POLHEMUS.THOMAS.LEONARD.1545590677	Digitally signed by POLHEMUS.THOMAS.LEONARD.1545590677 Date: 2022.01.14 09:11:20 -05'00'
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Mission: 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:

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 - 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.

Name: Tom Polhemus

Date: 14JAN2022

Part I. Student Outcomes. Check the box that most closely represents your opinion.

The cadets who graduated last year have demonstrated that they	Strongly Disagree		Neutral		Strongly Agree
<ul style="list-style-type: none"> Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Communicate effectively with a range of audiences. 	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Acquire and apply new knowledge as needed, using appropriate learning strategies. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Understand the chemical engineering curriculum. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Name: Tom Polhemus

Date: 14JAN2022

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

Name: Tom Polhemus

Date: 14JAN2022

Part III. Open Questions.

Are we teaching the right classes? Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum?

Yes, I believe the curriculum is structured well for the FE exam.

Are we asking the right questions? Do you have any suggestions to improve the survey for next year?

The questions seem like the right questions. They cover much of the goals of the major.

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

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- The surveys are due by COB 15 January 2022.
- Add your signature or digital signature in the space below:

ROCHA.PAUL.ALE XANDER.15456199 34	Digitally signed by ROCHA.PAUL.ALEXANDER.154 5619934 Date: 2022.01.15 12:22:46 -05'00'
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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.

Name: Paul Rocha

Date: 15JAN22

Part I. Student Outcomes. Check the box that most closely represents your opinion.

The cadets who graduated last year have demonstrated that they	Strongly Disagree		Neutral		Strongly Agree
<ul style="list-style-type: none"> Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Communicate effectively with a range of audiences. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions. 	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Acquire and apply new knowledge as needed, using appropriate learning strategies. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Understand the chemical engineering curriculum. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Name: Paul Rocha

Date: 15JAN22

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"/>	<input checked="" 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"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The student outcomes are consistent with the program mission and objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Name: Paul Rocha

Date: 15JAN22

Part III. Open Questions.

Are we teaching the right classes? Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum?

The program is doing well in providing instruction on all the material the program objectives encompass. For improvement in some areas, the program should look toward teaching Thermal Fluids courses in the department. Similar to how Controls were once outsourced to another department, teaching Fluids with chemical engineering faculty may improve outcomes. This is in response to the national averages trend for both Thermodynamics and Fluid Mechanics.

Are we asking the right questions? Do you have any suggestions to improve the survey for next year?

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

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- The surveys are due by COB 15 January 2022.
- Add your signature or digital signature in the space below:

ROGERS.SEAN.PA TRICK.1237062970	Digitally signed by ROGERS.SEAN.PATRICK.12370 62970 Date: 2022.01.04 15:14:21 -05'00'
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Mission: 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 Student Outcomes: On completion of the chemical engineering program, our graduates will be able to:

- 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.
- Understand the chemical engineering curriculum, 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.

Name: Sean Rogers

Date: 04Jan22

Part I. Student Outcomes. Check the box that most closely represents your opinion.

The cadets who graduated last year have demonstrated that they	Strongly Disagree		Neutral		Strongly Agree
<ul style="list-style-type: none"> Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Communicate effectively with a range of audiences. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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<ul style="list-style-type: none"> Acquire and apply new knowledge as needed, using appropriate learning strategies. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Understand the chemical engineering curriculum. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Sean Rogers

Date: 04JAN22

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"/>	<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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The survey methods used by the program are effective.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The cadets in the program are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The faculty are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Sean Rogers

Date: 04JAN22

Part III. Open Questions.

Are we teaching the right classes? Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum?

Yes. Every class in the department I have taken has had great value. For the major however, I have no idea why we take MC300.

Are we asking the right questions? Do you have any suggestions to improve the survey for next year?

Yes. An anonymous survey could potentially improve the accuracy and validity of the feedback.

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

2021 Cadet Program Briefing Surveys (Completed by Firsties in AY22-2)

This is your annual cadet survey for the **2021** program assessment, and it is very important for continued ABET accreditation. The survey is designed to do three things. First, it provides documentation that you have been made aware of the performance of our previous cadets on our student outcomes. Second, it serves to document you are aware of the program educational objectives. Third, it allows us to use your collective opinions to help identify areas where we might need improvement.

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- Review the chemical engineering program objectives on page two, and complete Part 2 of the survey. For this part of the survey, we are interested in your opinions on the relevance of the objectives and their consistency with the Academy mission and needs of the Army. Again, for each row, mark the survey form with an "x" in the box that most closely represents your opinion and enter one response per row.
- There are some free-form questions on the last page for you to comment on the quality of the curriculum, the meeting itself or any other items you would like us to address.
- We will consolidate the data, include it in our program assessment, and review it with you in a separate meeting.
- The surveys are due by COB 15 January 2022.
- Add your signature or digital signature in the space below:

THOMPSON.CAME RON.ALEXANDER. 1545477544	Digitally signed by THOMPSON.CAMERON.ALEXA NDER.1545477544 Date: 2022.01.14 10:53:34 -05'00'
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 - Chemical reaction engineering.
 - Continuous and staged separation operations.
 - Process dynamics and control.
 - Modern experimental and computing techniques.
 - Process design.

Name: Cameron Thompson

Date: 14 JAN 21

Part I. Student Outcomes. Check the box that most closely represents your opinion.

The cadets who graduated last year have demonstrated that they	Strongly Disagree		Neutral		Strongly Agree
<ul style="list-style-type: none"> Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Communicate effectively with a range of audiences. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions. 	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Acquire and apply new knowledge as needed, using appropriate learning strategies. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Understand the chemical engineering curriculum. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Cameron Thompson

Date: 14 JAN 21

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"/>	<input checked="" 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"/>	<input type="checkbox"/>	<input type="checkbox"/>
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The student outcomes are consistent with the program mission and objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The program has a process for periodically assessing the achievement of its student outcomes.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The cadets in the program are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The faculty are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Cameron Thompson

Date: 14 JAN 21

Part III. Open Questions.

Are we teaching the right classes? Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum?

Yes we are teaching the right classes but we need to go to the lab in the basement earlier in our cadet career. The first time I ever went to the lab for a class was for controls second semester my cow year.

Are we asking the right questions? Do you have any suggestions to improve the survey for next year?

I believe you are asking the right questions but I would add more short answer boxes.

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

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- The surveys are due by COB 15 January 2022.
- Add your signature or digital signature in the space below:

WADDINGTON.JO SEPH.DAVID.15455 06447	Digitally signed by WADDINGTON.JOSEPH.DAVID. 1545506447 Date: 2022.01.09 16:59:27 -05'00'
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Mission: 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.

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 - Chemical reaction engineering.
 - Continuous and staged separation operations.
 - Process dynamics and control.
 - Modern experimental and computing techniques.
 - Process design.

Name: Joseph Waddington

Date: 09JAN21

Part I. Student Outcomes. Check the box that most closely represents your opinion.

The cadets who graduated last year have demonstrated that they	Strongly Disagree		Neutral		Strongly Agree
<ul style="list-style-type: none"> Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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<ul style="list-style-type: none"> Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Acquire and apply new knowledge as needed, using appropriate learning strategies. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Understand the chemical engineering curriculum. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Joseph Waddington

Date: 09JAN21

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"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The cadets are given an opportunity to provide their opinion about the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Name: Joseph Waddington

Date: 09JAN21

Part III. Open Questions.

Are we teaching the right classes? Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum?

I think the right classes are generally being taught. However, I think that we could probably learn everything we needed to from MC311 and 312 in one semester if it was a ChemE specific class instead of having to learn Mech E things as well and I wish we could spend more time doing laboratory work like we did in CH459.

Are we asking the right questions? Do you have any suggestions to improve the survey for next year?

I think the questions this survey asks are appropriate.

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

Personally, I don't think we need to take EE301 or MC300, and I think we would benefit more from taking another semester covering chemical engineering topics.

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WINGER.JOHN.DE LANEY.1545540173	Digitally signed by WINGER.JOHN.DE LANEY.1545540173 Date: 2022.01.13 21:43:20 -05'00'
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Name: John Winger

Date: 14 JAN 2022

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<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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<ul style="list-style-type: none"> Acquire and apply new knowledge as needed, using appropriate learning strategies. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Understand the chemical engineering curriculum. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Name: John Winger

Date: 14 JAN 2022

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"/>	<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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 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"/>	<input type="checkbox"/>	<input type="checkbox"/>
The survey methods used by the program are effective.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The cadets in the program are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The cadets are given an opportunity to provide their opinion about the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The faculty are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: John Winger

Date: 14 JAN 2022

Part III. Open Questions.

Are we teaching the right classes? Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum?

I don't believe that there any courses that need to be added to the curriculum, I feel that the classes I have taken in the Chemical Engineering department have been a fair assessment of the program outcomes.

Are we asking the right questions? Do you have any suggestions to improve the survey for next year?

The questions that need to be asked next year are whether cadets believe that they are getting the most value out of their classes and whether they think their instructors are using appropriate methods to get these lessons across.

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

N/A

2021 Cadet Program Briefing Surveys (Completed by Firsties in AY22-2)

This is your annual cadet survey for the **2021** program assessment, and it is very important for continued ABET accreditation. The survey is designed to do three things. First, it provides documentation that you have been made aware of the performance of our previous cadets on our student outcomes. Second, it serves to document you are aware of the program educational objectives. Third, it allows us to use your collective opinions to help identify areas where we might need improvement.

Instructions

- Write or enter your name and date on the top of each page.
- The second page of this handout contains a listing of program objectives and student outcomes. Please read this page to become oriented to the process.
- Review the data pertaining to the achievement student outcomes by our **2021** program graduates, and complete Part 1 of the survey. Your survey responses should be based on the data presented. For each row, mark the survey form with an “x” in the box that most closely represents your opinion. Enter one response per row.
- Review the chemical engineering program objectives on page two, and complete Part 2 of the survey. For this part of the survey, we are interested in your opinions on the relevance of the objectives and their consistency with the Academy mission and needs of the Army. Again, for each row, mark the survey form with an “x” in the box that most closely represents your opinion and enter one response per row.
- There are some free-form questions on the last page for you to comment on the quality of the curriculum, the meeting itself or any other items you would like us to address.
- We will consolidate the data, include it in our program assessment, and review it with you in a separate meeting.
- The surveys are due by COB 15 January 2022.
- Add your signature or digital signature in the space below:

ZAMMIT.ALEXA.SH INGMING.15455406 02	Digitally signed by ZAMMIT.ALEXA.SHINGMING.15 45540602 Date: 2022.01.15 08:47:17 -05'00'
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Mission: 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 Student Outcomes: On completion of the chemical engineering program, our graduates will be able to:

- 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.
- Understand the chemical engineering curriculum, 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.

Name: Alexa Zammit

Date: 15JAN22

Part I. Student Outcomes. Check the box that most closely represents your opinion.

The cadets who graduated last year have demonstrated that they	Strongly Disagree		Neutral		Strongly Agree
<ul style="list-style-type: none"> Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Communicate effectively with a range of audiences. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> 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. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Acquire and apply new knowledge as needed, using appropriate learning strategies. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Understand the chemical engineering curriculum. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Name: Alexa Zammit

Date: 15JAN22

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

Name: Alexa Zammit

Date: 15JAN22

Part III. Open Questions.

Are we teaching the right classes? Based on the assessment data or on your personal opinion, is there a course that the program should add to the curriculum?

I believe that the right classes are being taught. Based on the surveys and performance embedded indicators, the courses are generally improved to increase understanding over time. There should not be courses added to the program, but I think the objectives could be further achieved by improving the background in which we learn design and context.

Are we asking the right questions? Do you have any suggestions to improve the survey for next year?

Overall, it appears that the right questions are being asked. The survey responses may be improved better by providing additional information on what embedded indicators are throughout the program so that we can better provide our opinions and feedback.

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