

Name: Paul Dietrich

Date: 4 April 2020

2020 Advisory Board Surveys

Welcome to our annual advisory board meeting. As you know, we consider each of you to be valued shareholders in our program. The meeting is our annual shareholder's meeting, where we show you our performance report and discuss methods of improving the program. This document is your official advisory board survey, and it is *extremely important to our program*. It is design to do two things. First, the completed surveys provide *documentation* that you have been briefed on the performance of our cadets and the relevance of the program objectives. This is extremely important for maintaining our accreditation. Second, it allows us to use your collective knowledge and experience to *identify areas* where we might be in need of improvement. The surveys are based in part on the data that we present to you during this meeting, and your responses are your "thumbs up or down" to the various performance indicators we are tracking. This advisory board survey is part of the assessment for *Academic Year 2019* (students who graduated in May 2019).

Instructions

- The survey pertains to attainment of student outcomes (Part I), relevance of program educational objective (Part II), and program improvement (Part III). You will be given time during the day to answer the questions.
- For Part I, use the data to evaluate the attainment of our student outcomes. You will also meet with cadets, and the opinions you form of them might also influence your ratings. It is completely appropriate to use that information in the formation of your opinions.
- Part II pertains to the relevance and consistency of the program educational objectives. Your opinions and our discussions will help shape any future revisions of these objectives.
- Part III contains some free-form questions where you can comment on the quality of the curriculum, the meeting itself or any other items you would like us to address.
- *The surveys are due by the end of today, 10 April 2020.* If you complete the survey after you leave, please email a scanned copy or mail the physical copy to us as soon as possible.

Name: PAUL D. FRIED

Date: 4 APRIL 2020

Part I. Student Outcomes. Check the most appropriate box.

The cadets in the program appear to:	Strongly Disagree		Neutral		Strongly Agree	
• Apply knowledge of math, science, and engineering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Design and conduct experiments as well as analyze and interpret data.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Design a system, component, or process to meet desired needs within specified constraints.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Be prepared to function on multidisciplinary teams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Identify, formulate, and solve engineering problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Understand their professional and ethical responsibilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
• Communicate effectively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Understand the impact of engineering solutions in a global economic, environmental, and societal context	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
• Recognize the need for life-long learning, and appear to be developing the skills they will need to pursue this.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Demonstrate knowledge of contemporary issues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
• Demonstrate an ability to use techniques, skills, and modern engineering tools necessary for engineering practice.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Name: Paul DietrichDate: 4 APRIL 2020**Part II. Program Educational Objectives.** Check the most appropriate box.

	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"/>	<input 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"/>	<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"/>	<input type="checkbox"/>
The program 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"/>	<input type="checkbox"/>
The program has a robust process for periodically assessing the achievement of its objectives.	<input type="checkbox"/>	<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 outcomes.	<input type="checkbox"/>	<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"/>	<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 type="checkbox"/>	<input type="checkbox"/>
The cadets have input into the development of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input 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"/>	<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"/>	<input type="checkbox"/>
The faculty contribute to the development of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

UNABLE to
CONFIRM w/o
MEETING WITH
"CADETS"
BUT INOTE THEY
WERE VERY FAMILIAR
IN PREVIOUS YEARS

SECABONE
UNABLE to wfr

Name: PAUL Dietrich

Date: 4 APR 2020

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

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

BASED ON OUTCOMES PREVIOUS YEARS CHANGE HAVE BEEN EFFECTIVE. I STILL RECOMMEND ORGANIC II FOR THOSE CONSIDERING A STRAIGHT CHEMICAL ENGINEERING MAJOR AS MY EXPERIENCES SHOW THIS TO BE OF PRACTICAL USE. COULD THIS BE AN ELECTIVE?

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

I RECOMMEND CONSIDERATION FOR BOARD MEMBERS TO PARTICIPATE VIRTUALLY IF THEY CANNOT ATTEND IN PERSON AT LEAST FOR THE CADET INTERVIEWS + DATA REVIEWS

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

2020 Advisory Board Surveys

Welcome to our annual advisory board meeting. As you know, we consider each of you to be valued shareholders in our program. The meeting is our annual shareholder's meeting, where we show you our performance report and discuss methods of improving the program. This document is your official advisory board survey, and it is *extremely important to our program*. It is design to do two things. First, the completed surveys provide *documentation* that you have been briefed on the performance of our cadets and the relevance of the program objectives. This is extremely important for maintaining our accreditation. Second, it allows us to use your collective knowledge and experience to *identify areas* where we might be in need of improvement. The surveys are based in part on the data that we present to you during this meeting, and your responses are your "thumbs up or down" to the various performance indicators we are tracking. This advisory board survey is part of the assessment for *Academic Year 2019* (students who graduated in May 2019).

Instructions

- The survey pertains to attainment of student outcomes (Part I), relevance of program educational objective (Part II), and program improvement (Part III). You will be given time during the day to answer the questions.
- For Part I, use the data to evaluate the attainment of our student outcomes. You will also meet with cadets, and the opinions you form of them might also influence your ratings. It is completely appropriate to use that information in the formation of your opinions.
- Part II pertains to the relevance and consistency of the program educational objectives. Your opinions and our discussions will help shape any future revisions of these objectives.
- Part III contains some free-form questions where you can comment on the quality of the curriculum, the meeting itself or any other items you would like us to address.
- *The surveys are due by the end of today, 10 April 2020.* If you complete the survey after you leave, please email a scanned copy or mail the physical copy to us as soon as possible.

Part I. Student Outcomes. Check the most appropriate box.

The cadets in the program appear to:	Strongly Disagree		Neutral		Strongly Agree	
• Apply knowledge of math, science, and engineering		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		X
• Design and conduct experiments as well as analyze and interpret data.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		X
• Design a system, component, or process to meet desired needs within specified constraints.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		X
• Be prepared to function on multidisciplinary teams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		X
• Identify, formulate, and solve engineering problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		X
• Understand their professional and ethical responsibilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		X
• Communicate effectively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		X	
• Understand the impact of engineering solutions in a global economic, environmental, and societal context	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		X
• Recognize the need for life-long learning, and appear to be developing the skills they will need to pursue this.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		X
• Demonstrate knowledge of contemporary issues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		X
• Demonstrate an ability to use techniques, skills, and modern engineering tools necessary for engineering practice.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		X
• Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		X

Part II. Program Educational Objectives. Check the most appropriate box.

	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"/>	X
The program objectives are consistent with the needs of the Army.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
The program outcomes are consistent with the program mission and objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
The program has a robust process for periodically assessing the achievement of its objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
The program has a process for periodically assessing the achievement of its outcomes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
The survey methods used by the program are effective.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
The cadets in the program are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	
The cadets have input into the development of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
The cadets are satisfied with the courses in the program.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	
The faculty are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
The faculty contribute to the development of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X

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

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

No - very excited to see the improvement in the ChE Controls course this past year (2019).

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

Could be a non existent point by the time next year's meeting is held, but perhaps for advisory board folks who cannot make the meeting in person there could be a virtual meeting with the cadets? This was always a highlight of the Advisory Board meeting.

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

Very impressed with the 1-8 Student Outcomes Data. The identification of concerns in two courses (Thermo and Controls) and now seeing the feedback from the students that the actions taken wer successful is great.

2020 Advisory Board Surveys

Welcome to our annual advisory board meeting. As you know, we consider each of you to be valued shareholders in our program. The meeting is our annual shareholder's meeting, where we show you our performance report and discuss methods of improving the program. This document is your official advisory board survey, and it is *extremely important to our program*. It is design to do two things. First, the completed surveys provide *documentation* that you have been briefed on the performance of our cadets and the relevance of the program objectives. This is extremely important for maintaining our accreditation. Second, it allows us to use your collective knowledge and experience to *identify areas* where we might be in need of improvement. The surveys are based in part on the data that we present to you during this meeting, and your responses are your "thumbs up or down" to the various performance indicators we are tracking. This advisory board survey is part of the assessment for *Academic Year 2019* (students who graduated in May 2019).

Instructions

- The survey pertains to attainment of student outcomes (Part I), relevance of program educational objective (Part II), and program improvement (Part III). You will be given time during the day to answer the questions.
- For Part I, use the data to evaluate the attainment of our student outcomes. You will also meet with cadets, and the opinions you form of them might also influence your ratings. It is completely appropriate to use that information in the formation of your opinions.
- Part II pertains to the relevance and consistency of the program educational objectives. Your opinions and our discussions will help shape any future revisions of these objectives.
- Part III contains some free-form questions where you can comment on the quality of the curriculum, the meeting itself or any other items you would like us to address.
- *The surveys are due by the end of today, 10 April 2020.* If you complete the survey after you leave, please email a scanned copy or mail the physical copy to us as soon as possible.

Part I. Student Outcomes. Check the most appropriate box.

The cadets in the program appear to:	Strongly Disagree		Neutral		Strongly Agree
• Apply knowledge of math, science, and engineering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
• Design and conduct experiments as well as analyze and interpret data.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
• Design a system, component, or process to meet desired needs within specified constraints.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
• Be prepared to function on multidisciplinary teams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
• Identify, formulate, and solve engineering problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
• Understand their professional and ethical responsibilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
• Communicate effectively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
• Understand the impact of engineering solutions in a global economic, environmental, and societal context	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
• Recognize the need for life-long learning, and appear to be developing the skills they will need to pursue this.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
• Demonstrate knowledge of contemporary issues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
• Demonstrate an ability to use techniques, skills, and modern engineering tools necessary for engineering practice.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
• Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X

Part II. Program Educational Objectives. Check the most appropriate box.

	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"/>	X
The program objectives are consistent with the needs of the Army.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
The program outcomes are consistent with the program mission and objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
The program has a robust process for periodically assessing the achievement of its objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
The program has a process for periodically assessing the achievement of its outcomes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
The survey methods used by the program are effective.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
The cadets in the program are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
The cadets have input into the development of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	
The cadets are satisfied with the courses in the program.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
The faculty are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
The faculty contribute to the development of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X

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

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

Nice to see the positive impacts of the new Thermo and Controls Courses are having on outcomes! Think it would be great to see a Process Safety Course Elective.

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

Let's hope we can meet in person next year! Appreciate all of the work that went into planning for this year's "virtual" meeting!

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

Keep up the great work + good luck with this year's ABET Recertification!

2020 Advisory Board Surveys

Welcome to our annual advisory board meeting. As you know, we consider each of you to be valued shareholders in our program. The meeting is our annual shareholder's meeting, where we show you our performance report and discuss methods of improving the program. This document is your official advisory board survey, and it is *extremely important to our program*. It is design to do two things. First, the completed surveys provide *documentation* that you have been briefed on the performance of our cadets and the relevance of the program objectives. This is extremely important for maintaining our accreditation. Second, it allows us to use your collective knowledge and experience to *identify areas* where we might be in need of improvement. The surveys are based in part on the data that we present to you during this meeting, and your responses are your "thumbs up or down" to the various performance indicators we are tracking. This advisory board survey is part of the assessment for *Academic Year 2019* (students who graduated in May 2019).

Instructions

- The survey pertains to attainment of student outcomes (Part I), relevance of program educational objective (Part II), and program improvement (Part III). You will be given time during the day to answer the questions.
- For Part I, use the data to evaluate the attainment of our student outcomes. You will also meet with cadets, and the opinions you form of them might also influence your ratings. It is completely appropriate to use that information in the formation of your opinions.
- Part II pertains to the relevance and consistency of the program educational objectives. Your opinions and our discussions will help shape any future revisions of these objectives.
- Part III contains some free-form questions where you can comment on the quality of the curriculum, the meeting itself or any other items you would like us to address.
- *The surveys are due by the end of today, 10 April 2020.* If you complete the survey after you leave, please email a scanned copy or mail the physical copy to us as soon as possible.

Name: Lucy HairDate: 7 May 2020**Part I. Student Outcomes.** Check the most appropriate box.

The cadets in the program appear to:	Strongly Disagree		Neutral		Strongly Agree	
• Apply knowledge of math, science, and engineering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
• Design and conduct experiments as well as analyze and interpret data.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
• Design a system, component, or process to meet desired needs within specified constraints.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Be prepared to function on multidisciplinary teams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Identify, formulate, and solve engineering problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
• Understand their professional and ethical responsibilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Communicate effectively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Understand the impact of engineering solutions in a global economic, environmental, and societal context	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Recognize the need for life-long learning, and appear to be developing the skills they will need to pursue this.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Demonstrate knowledge of contemporary issues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
• Demonstrate an ability to use techniques, skills, and modern engineering tools necessary for engineering practice.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Part II. Program Educational Objectives. Check the most appropriate box.

	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 program 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 robust process for periodically assessing the achievement of its 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 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 have input into the development of 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 contribute to the development of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

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

I recognize that there is little to no room to add courses - I have a longstanding wish that the curriculum allowed another semester of organic chemistry, but it looks like the outcome in chemistry is OK anyway.

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

If we are still unable to meet in person, I suppose we could try Web-Ex or Zoom.

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

None in particular.

Name: COL AARON HILL

Date: 3 APRIL 2020

2020 Advisory Board Surveys

Welcome to our annual advisory board meeting. As you know, we consider each of you to be valued shareholders in our program. The meeting is our annual shareholder's meeting, where we show you our performance report and discuss methods of improving the program. This document is your official advisory board survey, and it is *extremely important to our program*. It is design to do two things. First, the completed surveys provide *documentation* that you have been briefed on the performance of our cadets and the relevance of the program objectives. This is extremely important for maintaining our accreditation. Second, it allows us to use your collective knowledge and experience to *identify areas* where we might be in need of improvement. The surveys are based in part on the data that we present to you during this meeting, and your responses are your "thumbs up or down" to the various performance indicators we are tracking. This advisory board survey is part of the assessment for *Academic Year 2019* (students who graduated in May 2019).

Instructions

- The survey pertains to attainment of student outcomes (Part I), relevance of program educational objective (Part II), and program improvement (Part III). You will be given time during the day to answer the questions.
- For Part I, use the data to evaluate the attainment of our student outcomes. You will also meet with cadets, and the opinions you form of them might also influence your ratings. It is completely appropriate to use that information in the formation of your opinions.
- Part II pertains to the relevance and consistency of the program educational objectives. Your opinions and our discussions will help shape any future revisions of these objectives.
- Part III contains some free-form questions where you can comment on the quality of the curriculum, the meeting itself or any other items you would like us to address.

- *The surveys are due by the end of today, 10 April 2020. If you complete the survey after you leave, please email a scanned copy or mail the physical copy to us as soon as possible.*

United States Military Academy
Department of Chemistry and Life Science
Chemical Engineering Program

Advisory Board Meeting
April 10, 2020

Name: COL AARON HILL

Date: 3 APRIL 2020

Part I. Student Outcomes. Check the most appropriate box.

The cadets in the program appear to:	Strongly Disagree		Neutral		Strongly Agree
(2) • Apply knowledge of math, science, and engineering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(6) • Design and conduct experiments as well as analyze and interpret data.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(2) • Design a system, component, or process to meet desired needs within specified constraints.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(5) • Be prepared to function on multidisciplinary teams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(1) • Identify, formulate, and solve engineering problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(4) • Understand their professional and ethical responsibilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(3) • Communicate effectively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(4) • Understand the impact of engineering solutions in a global economic, environmental, and societal context	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(7) { • Recognize the need for life-long learning, and appear to be developing the skills they will need to pursue this.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Demonstrate knowledge of contemporary issues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Demonstrate an ability to use techniques, skills, and modern engineering tools necessary for engineering practice.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(8) • Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

United States Military Academy
Department of Chemistry and Life Science
Chemical Engineering Program

Advisory Board Meeting
April 10, 2020

X SHOULD SURVEY LINE UP WITH 8 STUDENT OUTCOMES PRESENTED TO US?

Name: COL ARRON HILL

Date: 6 APRIL 2020

Part II. Program Educational Objectives. Check the most appropriate box.

	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 program 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 robust process for periodically assessing the achievement of its 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 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 have input into the development of 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 contribute to the development of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

MAY HAVE DIFFERENT ASSESSMENT WITH INTERVIEWS.

United States Military Academy
Department of Chemistry and Life Science
Chemical Engineering Program

Advisory Board Meeting
April 10, 2020

Name: COL AARON HILL

Date: 6 APRIL 2020

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

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

BALANCING ACT BETWEEN "DOING LESS BETTER" AND OFFERING MORE ELECTIVES FOR STUDENTS (WE HAVE SAME DILEMMA IN CE PROGRAM) ... I THINK THE IDEAS/COAS PRESENTED IN SLIDE MAKE SENSE.

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

NO CORONAVIRUS PLEASE! 😊

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

SORRY FOR ALL THE QUESTIONS ... THEY ARE MORE FOR ME TO UNDERSTAND YOUR PROGRAM.

STAY HEALTHY!

2020 Advisory Board Surveys

Welcome to our annual advisory board meeting. As you know, we consider each of you to be valued shareholders in our program. The meeting is our annual shareholder's meeting, where we show you our performance report and discuss methods of improving the program. This document is your official advisory board survey, and it is *extremely important to our program*. It is design to do two things. First, the completed surveys provide *documentation* that you have been briefed on the performance of our cadets and the relevance of the program objectives. This is extremely important for maintaining our accreditation. Second, it allows us to use your collective knowledge and experience to *identify areas* where we might be in need of improvement. The surveys are based in part on the data that we present to you during this meeting, and your responses are your "thumbs up or down" to the various performance indicators we are tracking. This advisory board survey is part of the assessment for *Academic Year 2019* (students who graduated in May 2019).

Instructions

- The survey pertains to attainment of student outcomes (Part I), relevance of program educational objective (Part II), and program improvement (Part III). You will be given time during the day to answer the questions.
- For Part I, use the data to evaluate the attainment of our student outcomes. You will also meet with cadets, and the opinions you form of them might also influence your ratings. It is completely appropriate to use that information in the formation of your opinions.
- Part II pertains to the relevance and consistency of the program educational objectives. Your opinions and our discussions will help shape any future revisions of these objectives.
- Part III contains some free-form questions where you can comment on the quality of the curriculum, the meeting itself or any other items you would like us to address.
- *The surveys are due by the end of today, 10 April 2020.* If you complete the survey after you leave, please email a scanned copy or mail the physical copy to us as soon as possible.

Name: LiberatoreDate: 04/08/2020**Part I. Student Outcomes.** Check the most appropriate box.

The cadets in the program appear to:	Strongly Disagree		Neutral		Strongly Agree
• Apply knowledge of math, science, and engineering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Design and conduct experiments as well as analyze and interpret data.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Design a system, component, or process to meet desired needs within specified constraints.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Be prepared to function on multidisciplinary teams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Identify, formulate, and solve engineering problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Understand their professional and ethical responsibilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Communicate effectively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Understand the impact of engineering solutions in a global economic, environmental, and societal context	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Recognize the need for life-long learning, and appear to be developing the skills they will need to pursue this.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Demonstrate knowledge of contemporary issues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Demonstrate an ability to use techniques, skills, and modern engineering tools necessary for engineering practice.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: LiberatoreDate: 04/08/2020**Part II. Program Educational Objectives.** Check the most appropriate box.

	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 program 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 robust process for periodically assessing the achievement of its 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 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 have input into the development of 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 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 contribute to the development of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Liberatore

Date: 04/08/2020

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

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

List of comments are attached separately. Computation modules in existing courses or the addition of a computation course or elective may be justified. A related move to add data management/analytics topics are becoming more relevant to chemical engineers, which may be especially helpful for the decision making leaders being cultivated at USMA.

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

I hope the world will be in a better place to hold an in person meeting. Talking to the cadets is an important part of the evaluation process that was not possible this year. Although I did talk to cadets at SOR and AIChE since the last advisory board meeting, which somewhat fills the gap.

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

List of comments are attached separately.

Name: Kelly Schulz

Date: 04/10/2020

2020 Advisory Board Surveys

Welcome to our annual advisory board meeting. As you know, we consider each of you to be valued shareholders in our program. The meeting is our annual shareholder's meeting, where we show you our performance report and discuss methods of improving the program. This document is your official advisory board survey, and it is *extremely important to our program*. It is design to do two things. First, the completed surveys provide *documentation* that you have been briefed on the performance of our cadets and the relevance of the program objectives. This is extremely important for maintaining our accreditation. Second, it allows us to use your collective knowledge and experience to *identify areas* where we might be in need of improvement. The surveys are based in part on the data that we present to you during this meeting, and your responses are your "thumbs up or down" to the various performance indicators we are tracking. This advisory board survey is part of the assessment for *Academic Year 2019* (students who graduated in May 2019).

Instructions

- The survey pertains to attainment of student outcomes (Part I), relevance of program educational objective (Part II), and program improvement (Part III). You will be given time during the day to answer the questions.
- For Part I, use the data to evaluate the attainment of our student outcomes. You will also meet with cadets, and the opinions you form of them might also influence your ratings. It is completely appropriate to use that information in the formation of your opinions.
- Part II pertains to the relevance and consistency of the program educational objectives. Your opinions and our discussions will help shape any future revisions of these objectives.
- Part III contains some free-form questions where you can comment on the quality of the curriculum, the meeting itself or any other items you would like us to address.
- *The surveys are due by the end of today, 10 April 2020.* If you complete the survey after you leave, please email a scanned copy or mail the physical copy to us as soon as possible.

Name: Kelly SchultzDate: 04/10/2020**Part I. Student Outcomes.** Check the most appropriate box.

The cadets in the program appear to:	Strongly Disagree		Neutral		Strongly Agree
• Apply knowledge of math, science, and engineering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Design and conduct experiments as well as analyze and interpret data.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Design a system, component, or process to meet desired needs within specified constraints.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Be prepared to function on multidisciplinary teams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Identify, formulate, and solve engineering problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Understand their professional and ethical responsibilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Communicate effectively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Understand the impact of engineering solutions in a global economic, environmental, and societal context	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Recognize the need for life-long learning, and appear to be developing the skills they will need to pursue this.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Demonstrate knowledge of contemporary issues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Demonstrate an ability to use techniques, skills, and modern engineering tools necessary for engineering practice.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Name: Kelly Schulte

Date: 04/10/2020

Part II. Program Educational Objectives. Check the most appropriate box.

	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 program 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 robust process for periodically assessing the achievement of its 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 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The cadets have input into the development of 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The faculty contribute to the development of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Since did not meet them

From assessment data

Did not meet them

Name: Kelly Schultz

Date: 04/10/2020

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

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

Fluid mechanics, instead of thermal-fluids
integration of biomolecular concepts into courses

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

N/A

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

I was concerned w/ the negative deviations in national averages in Fluid Mechanics Dynamics, it seems that an intervention on that course may be necessary. The need for interventions or how to intervene in a course is unclear from the documents, after assessment there should be action plans.

2020 Advisory Board Surveys

Welcome to our annual advisory board meeting. As you know, we consider each of you to be valued shareholders in our program. The meeting is our annual shareholder's meeting, where we show you our performance report and discuss methods of improving the program. This document is your official advisory board survey, and it is *extremely important to our program*. It is design to do two things. First, the completed surveys provide *documentation* that you have been briefed on the performance of our cadets and the relevance of the program objectives. This is extremely important for maintaining our accreditation. Second, it allows us to use your collective knowledge and experience to *identify areas* where we might be in need of improvement. The surveys are based in part on the data that we present to you during this meeting, and your responses are your "thumbs up or down" to the various performance indicators we are tracking. This advisory board survey is part of the assessment for *Academic Year 2019* (students who graduated in May 2019).

Instructions

- The survey pertains to attainment of student outcomes (Part I), relevance of program educational objective (Part II), and program improvement (Part III). You will be given time during the day to answer the questions.
- For Part I, use the data to evaluate the attainment of our student outcomes. You will also meet with cadets, and the opinions you form of them might also influence your ratings. It is completely appropriate to use that information in the formation of your opinions.
- Part II pertains to the relevance and consistency of the program educational objectives. Your opinions and our discussions will help shape any future revisions of these objectives.
- Part III contains some free-form questions where you can comment on the quality of the curriculum, the meeting itself or any other items you would like us to address.
- *The surveys are due by the end of today, 10 April 2020.* If you complete the survey after you leave, please email a scanned copy or mail the physical copy to us as soon as possible.

Name: Kevin Shipe

Date: 10 Apr 20

Part I. Student Outcomes. Check the most appropriate box.

The cadets in the program appear to:	Strongly Disagree		Neutral		Strongly Agree
• Apply knowledge of math, science, and engineering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Design and conduct experiments as well as analyze and interpret data.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Design a system, component, or process to meet desired needs within specified constraints.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Be prepared to function on multidisciplinary teams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Identify, formulate, and solve engineering problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Understand their professional and ethical responsibilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Communicate effectively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Understand the impact of engineering solutions in a global economic, environmental, and societal context	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Recognize the need for life-long learning, and appear to be developing the skills they will need to pursue this.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Demonstrate knowledge of contemporary issues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Demonstrate an ability to use techniques, skills, and modern engineering tools necessary for engineering practice.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Name: Kevin Shipe

Date: 10 Apr 20

Part II. Program Educational Objectives. Check the most appropriate box.

	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 program 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 robust process for periodically assessing the achievement of its 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 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 have input into the development of 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 contribute to the development of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Kevin Shipe

Date: 10 Apr 20

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

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

Recently added courses seem to be improving the overall performance and understanding of ChemE objectives and concepts. In order to keep up with the ever changing and broadening field of Chemical Engineering, and with the decrease in required courses, this may be an opportunity to add some more industry specific classes (such as Petrochemical, Biomechanical, etc.). this may be a challenge due to faculty available, but something to consider in the future, or even an industry general type course that spends a few lessons on different aspects of ChemE in the professional sector.

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

Global challenges prevented a face to face meeting this year, however I'd be interested in adding a virtual/remote option, both to decrease the financial strain on the Army/USMA in trying to bring everyone each year, but also make this available to help with when professional schedules may not always allow for travel, or, as is the case this year, global/national challenges.

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

As always, I appreciate being a part of the ChemE Advisory Board. I look forward to the results of the ABET assessment next year, and will continue to be available to assist however needed towards the improvement of the ChemE program, and USMA. If any cadet has questions regarding both time as an officer in the military, leading troops in combat, or life after the Army, please extend my contact information to them.

Name: Lisondra Tanev

Date: 10 April 2020

2020 Advisory Board Surveys

Welcome to our annual advisory board meeting. As you know, we consider each of you to be valued shareholders in our program. The meeting is our annual shareholder's meeting, where we show you our performance report and discuss methods of improving the program. This document is your official advisory board survey, and it is *extremely important to our program*. It is design to do two things. First, the completed surveys provide *documentation* that you have been briefed on the performance of our cadets and the relevance of the program objectives. This is extremely important for maintaining our accreditation. Second, it allows us to use your collective knowledge and experience to *identify areas* where we might be in need of improvement. The surveys are based in part on the data that we present to you during this meeting, and your responses are your "thumbs up or down" to the various performance indicators we are tracking. This advisory board survey is part of the assessment for *Academic Year 2019* (students who graduated in May 2019).

Instructions

- The survey pertains to attainment of student outcomes (Part I), relevance of program educational objective (Part II), and program improvement (Part III). You will be given time during the day to answer the questions.
- For Part I, use the data to evaluate the attainment of our student outcomes. You will also meet with cadets, and the opinions you form of them might also influence your ratings. It is completely appropriate to use that information in the formation of your opinions.
- Part II pertains to the relevance and consistency of the program educational objectives. Your opinions and our discussions will help shape any future revisions of these objectives.
- Part III contains some free-form questions where you can comment on the quality of the curriculum, the meeting itself or any other items you would like us to address.
- *The surveys are due by the end of today, 10 April 2020.* If you complete the survey after you leave, please email a scanned copy or mail the physical copy to us as soon as possible.

Name: Lisondra TanevDate: 10 April 2020**Part I. Student Outcomes.** Check the most appropriate box.

The cadets in the program appear to:	Strongly Disagree		Neutral		Strongly Agree	
• Apply knowledge of math, science, and engineering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Design and conduct experiments as well as analyze and interpret data.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
• Design a system, component, or process to meet desired needs within specified constraints.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Be prepared to function on multidisciplinary teams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Identify, formulate, and solve engineering problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Understand their professional and ethical responsibilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Communicate effectively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
• Understand the impact of engineering solutions in a global economic, environmental, and societal context	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
• Recognize the need for life-long learning, and appear to be developing the skills they will need to pursue this.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Demonstrate knowledge of contemporary issues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
• Demonstrate an ability to use techniques, skills, and modern engineering tools necessary for engineering practice.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
• Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Name: Ki Sondra TanevDate: 10 April 2020**Part II. Program Educational Objectives.** Check the most appropriate box.

	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 program 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 robust process for periodically assessing the achievement of its 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 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 have input into the development of 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 contribute to the development of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Kisundra Tanev

Date: 10 April 2020

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

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

Classes like CH450 that provide extensive experience with computational tools are important as the world becomes more and more data driven.

It seems like students aren't as positive about non-CHE courses. Is it possible to work more with other departments or perhaps provide a CHE supplemental for classes like MA364? (continued below)

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

It would be helpful to hear more from students (appreciate this was difficult this year due to COVID-19), but would like to understand why Cadets' responses for Student Outcomes #3 & 4 and CH400 were less positive than for other SOs/courses, because it looks like they have many learning opportunities based on coursework, FEE pass rates, student profiles, etc.

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

(continued from above)

I didn't have an extensive engineering mathematics coursework experience outside of CHE classes, and I think it would have been very helpful, so I'm surprised that cadets don't seem to find it as helpful based on surveys.