

Name: LTC Armstrong

Date: 27 JUL 18

### 2018 Faculty Surveys

This is our annual faculty program assessment survey for academic year 2018 (2017-2018). Print the survey, put your name and date on the top of each page, and submit the completed survey to Dr. Biaglow by COB **Monday 3 September 2018**. The survey is **very important** for our program assessment and re-accreditation effort. Please be prompt. Direct any questions about the data or the survey to Dr. Biaglow.

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- Guidance for completing the survey will be discussed at an upcoming faculty meeting.
- Your responses will be consolidated, discussed at our program assessment meeting, and archived in our annual report.

Name: Armstrong

Date: \_\_\_\_\_

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

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

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

**Chemical Engineering General Program Outcomes (Outcomes 1-11):** On completion of the chemical engineering program, our graduates will be able to:

- Apply knowledge of mathematics, science, and engineering.
- Design and conduct experiments, as well as analyze and interpret data.
- Design a system, component, or process to meet desired needs within economic, environmental, social, political, ethical, health and safety, manufacturing, and sustainability constraints.
- Function on multidisciplinary teams.
- Identify, formulate, and solve engineering problems.
- Understand professional and ethical responsibilities.
- Communicate effectively.
- Understand the impact of engineering solutions in a global economic, environmental, and societal context.
- Recognize the need and develop the skills required for life-long learning.
- Demonstrate knowledge of contemporary issues.
- Demonstrate an ability to use techniques, skills, and modern engineering tools necessary for engineering practice.

**Chemical Engineering Curriculum Outcomes (Outcome 12):** The program provides the graduate with a thorough grounding and working knowledge of the chemical sciences, including:

- General and organic chemistry.
- Material and energy balances on chemical processes, including 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: \_\_\_\_\_

Armstrong

Date: \_\_\_\_\_

27 JUL 18

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

The cadets in the program are able to:	Strongly Disagree		Neutral		Strongly Agree
· 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"/>
· 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 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 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"/>

Name: \_\_\_\_\_

*Armstrong*

Date: \_\_\_\_\_

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

	Strongly Disagree		Neutral		Strongly Agree
The program objectives are consistent with the USMA mission.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<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 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 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 (past and present) have contributed to the development of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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Amstrong

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27 JUL 18

**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. Perhaps to reinvigorate "communication" in each Chem E. class through IPRs, briefings, reports, summaries, and posters. Technical writing course... More Chem E. electives.

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

I believe these questions are appropriate.

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

In some of the comments and cadet survey results my opinion has been acknowledgement that cadets lack life experience to provide truly objective and unbiased feedback.



Name: Biaglow

Date: 31 Aug 2018

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Name: Biglow

Date: 31 Aug 2018

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

Name: Brazley

Date: 3/04/2018

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

The cadets in the program are able to:	Strongly Disagree		Neutral		Strongly Agree
· 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"/>
· 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 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"/>



Name: Benjamin

Date: 21 Aug 2018

**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 satisfied with the courses in the program.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The faculty (past and present) have contributed to the development of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Buajla

Date: 31 Aug 2018

**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. Probably need second semester of Senior design.*

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

*Yes. Survey is good.*

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

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· 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"/>
· function on multidisciplinary teams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 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 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 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 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"/>
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The faculty (past and present) have contributed 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.**

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, with the new ABET criteria, serious consideration should be given to allowing a broader range of electives, though still constrained, somewhat. Specifically, I would like to see more cadets take some advanced chemistry electives, Organic II, preferred, but also Analytical, Polymers, etc. I think our cadets would benefit from improved chemistry skills, although the FEE results generally show acceptable skill levels in this area.**

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

**Not at this time.**

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

**Beat Navy**

Name: CPT(P) Trevor Corrigan

Date: 20 AUG 18

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Name: CPT(P) Trevor Corrigan

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

The cadets in the program are able to:	Strongly Disagree		Neutral		Strongly Agree
· 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 checked="" type="checkbox"/>	<input type="checkbox"/>
· 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 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 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: CPT(P) Trevor Corrigan

Date: 20 AUG 18

**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 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 (past and present) have contributed to the development of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: CPT (P) Trevor Corrigan

Date: 20 AUG 18

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?

We are teaching the right courses. The assessment data shows that the cadets are struggling to apply concepts from the topics of Chemistry, Material & Energy balances, and heat transfer on the FEE. This could be due to when those courses are taught CH101 3-4 yrs prior to FEE or could indicate something else.

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

The survey is thorough. Both detailed and wide in scope.

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

Name: LTC Corey James

Date: 5SEP2018

### 2018 Faculty Surveys

This is our annual faculty program assessment survey for academic year 2018 (2017-2018). Print the survey, put your name and date on the top of each page, and submit the completed survey to Dr. Biaglow by COB **Monday 3 September 2018**. The survey is **very important** for our program assessment and re-accreditation effort. Please be prompt. Direct any questions about the data or the survey to Dr. Biaglow.

The survey is designed to do three things. First, it documents that you have been made aware of the performance of our cadets on our program's student outcomes. Second, it serves to document your opinions of that performance. Third, it allows us to use your collective knowledge and experience to identify areas where we might be in need of improvement. Your responses to the survey questions should be based on the data in the document entitled "Program Assessment Data - 26 July 2018." The completed surveys are your collective "thumbs up or down" to the various performance indicators we are tracking.

### Instructions

- Please review the data in the document "Program Assessment Data - 26 July 2018." The data pertain to the level of achievement of our 2018 program graduates. Answer the survey questions in "Part I" of this document based on your opinions of the data.
- The survey also asks questions pertaining to the program objectives. These questions are found in "Part II." For this part of the survey, we are interested in your opinion of the relevance of the objectives and their consistency with the Academy mission and needs of the Army.
- Finally, there are some open questions in Part III where you can comment on the quality of the curriculum, the process itself or any other items you would like us to address.
- The surveys are required for all chemical engineering faculty members and are due by **Monday 3 September 2018**.
- Guidance for completing the survey will be discussed at an upcoming faculty meeting.
- Your responses will be consolidated, discussed at our program assessment meeting, and archived in our annual report.

Name: LTC Corey James

Date: 5 SEP 2018

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

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

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

**Chemical Engineering General Program Outcomes (Outcomes 1-11):** On completion of the chemical engineering program, our graduates will be able to:

- Apply knowledge of mathematics, science, and engineering.
- Design and conduct experiments, as well as analyze and interpret data.
- Design a system, component, or process to meet desired needs within economic, environmental, social, political, ethical, health and safety, manufacturing, and sustainability constraints.
- Function on multidisciplinary teams.
- Identify, formulate, and solve engineering problems.
- Understand professional and ethical responsibilities.
- Communicate effectively.
- Understand the impact of engineering solutions in a global economic, environmental, and societal context.
- Recognize the need and develop the skills required for life-long learning.
- Demonstrate knowledge of contemporary issues.
- Demonstrate an ability to use techniques, skills, and modern engineering tools necessary for engineering practice.

**Chemical Engineering Curriculum Outcomes (Outcome 12):** The program provides the graduate with a thorough grounding and working knowledge of the chemical sciences, including:

- General and organic chemistry.
- Material and energy balances on chemical processes, including 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: LTC Corey James

Date: 5SEP2018

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

The cadets in the program are able to:	Strongly Disagree		Neutral		Strongly Agree
• 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 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"/>
• 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 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"/>



Name: LTC Corey James

Date: 5 SEP 2018

**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 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 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 (past and present) have contributed to the development of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: LTC Corey James

Date: 5 SEP 2018

**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?

delete - MC 311 and MC 312  
add - transport phenomena taught in CLS  
add - second semester of design

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

Do we have the correct balance between research and teaching and is that in line with USMA/Sup/Dean mission and priorities?

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

Name: Enoch Negelli

Date: 9/4/2018

### 2018 Faculty Surveys

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The survey is designed to do three things. First, it documents that you have been made aware of the performance of our cadets on our program's student outcomes. Second, it serves to document your opinions of that performance. Third, it allows us to use your collective knowledge and experience to identify areas where we might be in need of improvement. Your responses to the survey questions should be based on the data in the document entitled "Program Assessment Data - 26 July 2018." The completed surveys are your collective "thumbs up or down" to the various performance indicators we are tracking.

### Instructions

- Please review the data in the document "Program Assessment Data - 26 July 2018." The data pertain to the level of achievement of our 2018 program graduates. Answer the survey questions in "Part I" of this document based on your opinions of the data.
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- Finally, there are some open questions in Part III where you can comment on the quality of the curriculum, the process itself or any other items you would like us to address.
- The surveys are required for all chemical engineering faculty members and are due by **Monday 3 September 2018**.
- Guidance for completing the survey will be discussed at an upcoming faculty meeting.
- Your responses will be consolidated, discussed at our program assessment meeting, and archived in our annual report.

Name: \_\_\_\_\_

Date: \_\_\_\_\_

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

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**Chemical Engineering General Program Outcomes (Outcomes 1-11):** On completion of the chemical engineering program, our graduates will be able to:

- Apply knowledge of mathematics, science, and engineering.
- Design and conduct experiments, as well as analyze and interpret data.
- Design a system, component, or process to meet desired needs within economic, environmental, social, political, ethical, health and safety, manufacturing, and sustainability constraints.
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- Communicate effectively.
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- Recognize the need and develop the skills required for life-long learning.
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**Chemical Engineering Curriculum Outcomes (Outcome 12):** The program provides the graduate with a thorough grounding and working knowledge of the chemical sciences, including:

- General and organic chemistry.
- Material and energy balances on chemical processes, including 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: \_\_\_\_\_

Date: \_\_\_\_\_

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

The cadets in the program are able to:	Strongly Disagree		Neutral		Strongly Agree
· 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"/>
· function on multidisciplinary teams	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 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 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"/>



Name: \_\_\_\_\_

Date: \_\_\_\_\_

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

	Strongly Disagree		Neutral		Strongly Agree
The program objectives are consistent with the USMA mission.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<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 checked="" type="checkbox"/>	<input type="checkbox"/>
The cadets have input into the development of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>
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 (past and present) have contributed to the development of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### 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?

- ① It would be beneficial for our program and cadets to teach a chemical Eng. Transport course teaching Heat, mass and momentum transport within a chemical engineering context of processes.
- ② It would also be beneficial to have electives offered in the various disciplines of chemical engineering: Electrochemical engineering, biomaterials & bioengineering, applied nanomaterials & nanotechnology.

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

\_\_\_\_\_

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

N/A

Name: April Miller

Date: 4 Sep

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Name: \_\_\_\_\_

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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: \_\_\_\_\_

Date: \_\_\_\_\_

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

The cadets in the program are able to:	Strongly Disagree		Neutral		Strongly Agree
· 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"/>
· function on multidisciplinary teams	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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"/>
7 · 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 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 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: \_\_\_\_\_

Date: \_\_\_\_\_

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

	Strongly Disagree		Neutral		Strongly Agree
The program objectives are consistent with the USMA mission.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<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 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 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 (past and present) have contributed to the development of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**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?

If our cadets are commissioning into the Army are we teaching the right curriculum (traditional chemical engineering? I personally believe we should incorporate more "non traditional" chemical eng curriculum as this will support the multidiscipline as well as the development of a leader that is capable of thinking outside the box.

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

Do we have a question on the Cadet survey that allows the cadet to recommend changes? If so, show those results.

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

Name: Andrew Pflyger LTC

Date: 8/29/18

### 2018 Faculty Surveys

This is our annual faculty program assessment survey for academic year 2018 (2017-2018). Print the survey, put your name and date on the top of each page, and submit the completed survey to Dr. Biaglow by COB **Monday 3 September 2018**. The survey is **very important** for our program assessment and re-accreditation effort. Please be prompt. Direct any questions about the data or the survey to Dr. Biaglow.

The survey is designed to do three things. First, it documents that you have been made aware of the performance of our cadets on our program's student outcomes. Second, it serves to document your opinions of that performance. Third, it allows us to use your collective knowledge and experience to identify areas where we might be in need of improvement. Your responses to the survey questions should be based on the data in the document entitled "Program Assessment Data - 26 July 2018." The completed surveys are your collective "thumbs up or down" to the various performance indicators we are tracking.

### Instructions

- Please review the data in the document "Program Assessment Data - 26 July 2018." The data pertain to the level of achievement of our 2018 program graduates. Answer the survey questions in "Part I" of this document based on your opinions of the data.
- The survey also asks questions pertaining to the program objectives. These questions are found in "Part II." For this part of the survey, we are interested in your opinion of the relevance of the objectives and their consistency with the Academy mission and needs of the Army.
- Finally, there are some open questions in Part III where you can comment on the quality of the curriculum, the process itself or any other items you would like us to address.
- The surveys are required for all chemical engineering faculty members and are due by **Monday 3 September 2018**.
- Guidance for completing the survey will be discussed at an upcoming faculty meeting.
- Your responses will be consolidated, discussed at our program assessment meeting, and archived in our annual report.

Name: \_\_\_\_\_

Date: \_\_\_\_\_

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

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

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

**Chemical Engineering General Program Outcomes (Outcomes 1-11):** On completion of the chemical engineering program, our graduates will be able to:

- Apply knowledge of mathematics, science, and engineering.
- Design and conduct experiments, as well as analyze and interpret data.
- Design a system, component, or process to meet desired needs within economic, environmental, social, political, ethical, health and safety, manufacturing, and sustainability constraints.
- Function on multidisciplinary teams.
- Identify, formulate, and solve engineering problems.
- Understand professional and ethical responsibilities.
- Communicate effectively.
- Understand the impact of engineering solutions in a global economic, environmental, and societal context.
- Recognize the need and develop the skills required for life-long learning.
- Demonstrate knowledge of contemporary issues.
- Demonstrate an ability to use techniques, skills, and modern engineering tools necessary for engineering practice.

**Chemical Engineering Curriculum Outcomes (Outcome 12):** The program provides the graduate with a thorough grounding and working knowledge of the chemical sciences, including:

- General and organic chemistry.
- Material and energy balances on chemical processes, including 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: Pfluger

Date: 8/29/18

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

The cadets in the program are able to:	Strongly Disagree		Neutral		Strongly Agree
· 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"/>
· function on multidisciplinary teams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 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 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"/>



Name: Pf luger

Date: 8/29/18

**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 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 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 (past and present) have contributed to the development of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: Pfluger

Date: 8/29/18

**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 our ChemE core is spot on. I think science communication is always an area we can address; however, may not warrant a full course. I think exposure to bioengineering courses would be helpful, but in terms of elective courses,

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

Honestly, no. I think these questions allow for open & honest feedback & continued improvement.

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

I am glad to be part of an outstanding program that emphasizes excellence, supports the Academy's mission, and develops future leaders in the ChemE community.