

Name: LTC Matthew Armstrong

Date: 12 Aug 16

2016 Faculty Surveys

This is your annual faculty program assessment survey for academic year 2016 (2015-2016). Print the survey and put your name and date on the top of each page. Submitted completed surveys to Dr. Biaglow by COB **Friday 2 September 2016**. Do not procrastinate. It is very important for our program assessment and re-accreditation that you complete it and return it on time.

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 - 1 August 2016." 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 - 1 August 2016." Answer the survey questions in "Part I" of this document based on your opinions of the data. The data pertain to the level of achievement of our 2016 program graduates.
- 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 opinions on 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 **Friday 2 September 2016**.
- 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 Matthew Armstrong

Date: 12AUG16

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:

- 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.
- Demonstrate effective leadership and chemical engineering expertise.

Chemical Engineering General Program Outcomes: 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: The program provides the graduate with a thorough grounding and working knowledge of the chemical sciences, including:

- General, organic, and physical 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 Matthew ArmstrongDate: 12 AUG 16

Part I. Student Outcomes. Review the data and then check the box 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 checked="" type="checkbox"/>
· Design and conduct experiments as well as analyze and interpret data.	<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 checked="" type="checkbox"/>
· function on multidisciplinary teams	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
· Identify, formulate, and solve engineering problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
· Understand their professional and ethical responsibilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
· Communicate effectively	<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 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 checked="" type="checkbox"/>
· Demonstrate knowledge of contemporary issues.	<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 checked="" type="checkbox"/>
· Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.	<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"/>
The program objectives are consistent with the needs of the Army.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The student outcomes are consistent with the program mission and objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The program has a process for periodically assessing the achievement of its student outcomes.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The survey methods used by the program are effective.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The cadets in the program are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The cadets have input into the development of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The cadets are satisfied with the courses in the program.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The faculty are aware of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The faculty (past and present) have contributed to the development of the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: LTC Matthew Armstrong

Date: 12 AV6/16

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?

- Based on observations, discussions w/ cadets in program there is unanimous request for ChemE. engineering elective courses.
- Based on FEE results perhaps a ChemE. controls course would benefit our cadets.
- Also numerical methods in ChemE. -

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

- Ask for specifics on recommended curriculum changes.. what electives to add
- Make at least one semester of research mandatory for all cadets.

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

- Can we start FEE preparation in Fall Semester.
- Research for all ChemE. for at least one semester?
- AIChE club mandatory?

Name: Stephen Winter

Date: 8/26/16

2016 Faculty Surveys

This is your annual faculty program assessment survey for academic year 2016 (2015-2016). Print the survey and put your name and date on the top of each page. Submitted completed surveys to Dr. Biaglow by COB **Friday 2 September 2016**. Do not procrastinate. It is very important for our program assessment and re-accreditation that you complete it and return it on time.

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 - 1 August 2016." 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 - 1 August 2016." Answer the survey questions in "Part I" of this document based on your opinions of the data. The data pertain to the level of achievement of our 2016 program graduates.
- 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 opinions on 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 **Friday 2 September 2016**.
- 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:

- 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.
- Demonstrate effective leadership and chemical engineering expertise.

Chemical Engineering General Program Outcomes: 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: The program provides the graduate with a thorough grounding and working knowledge of the chemical sciences, including:

- General, organic, and physical 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 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 checked="" type="checkbox"/>	<input type="checkbox"/>
· Design and conduct experiments as well as analyze and interpret data.	<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 checked="" type="checkbox"/>	<input type="checkbox"/>
· function on multidisciplinary teams	<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"/>
· Understand their professional and ethical responsibilities.	<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"/>
· 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"/>
· 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"/>
· Demonstrate knowledge of contemporary issues.	<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"/>
· Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.	<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 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"/>
The program curriculum supports the program objectives.	<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 checked="" type="checkbox"/>	<input type="checkbox"/>
The program has a process for periodically assessing the achievement of its student outcomes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The survey methods used by the program are effective.	<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"/>
The cadets have input into the development of the program objectives.	<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 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"/>
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"/>

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?

Transport Phenom could be useful — better than MC311 & 312
teach fundamentals of Momentum, Heat & Mass Transfer.
Most undergrad programs have intro course &
then later — heat & mass. Shell balances should be
seen before Heat & Mass class

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

Do we ever show the results of these surveys to students — let them see how they responded and then ask for feedback?

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

0002020
Name: Joshua White

DUE 2 SEP

Date: 9 Aug 2016

2016 Faculty Surveys

This is your annual faculty program assessment survey for academic year 2016 (2015-2016). Print the survey and put your name and date on the top of each page. Submitted completed surveys to Dr. Biaglow by COB **Friday 2 September 2016**. Do not procrastinate. It is very important for our program assessment and re-accreditation that you complete it and return it on time.

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 - 1 August 2016." 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 - 1 August 2016." Answer the survey questions in "Part I" of this document based on your opinions of the data. The data pertain to the level of achievement of our 2016 program graduates.
- 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 opinions on 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 **Friday 2 September 2016**.
- 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: CPT White, Jesh

Date: 28 Sep 16

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:

- 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.
- Demonstrate effective leadership and chemical engineering expertise.

Chemical Engineering General Program Outcomes: 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: The program provides the graduate with a thorough grounding and working knowledge of the chemical sciences, including:

- General, organic, and physical 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: CPT WhiteDate: 25 Sep 16

Part I. Student Outcomes. Review the data and then check the box 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 checked="" type="checkbox"/>
· Design and conduct experiments as well as analyze and interpret data.	<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 checked="" type="checkbox"/>
· function on multidisciplinary teams	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
· Identify, formulate, and solve engineering problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
· Understand their professional and ethical responsibilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
· Communicate effectively	<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 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 checked="" type="checkbox"/>
· Demonstrate knowledge of contemporary issues.	<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 checked="" type="checkbox"/>
· Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: CPT WhiteDate: 280916**Part II. Program Objectives.** Check the box that most closely represents your opinion.

	Strongly Disagree	Neutral	Strongly Agree	
The program objectives are consistent with the USMA mission.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The program objectives are consistent with the needs of the Army.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>
The student outcomes are consistent with the program mission and objectives.	<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"/>
The survey methods used by the program are effective.	<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 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"/>
The cadets are satisfied with the courses in the program.	<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 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"/>

Name: CPT White

Date: 28 sep 16

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?

Controls seems to continue to be the math course that needs to be looked at.

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

Questions are appropriate to get the information we need

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

Name: Enoch Nagelli

Date: 9/2/16

2016 Faculty Surveys

This is your annual faculty program assessment survey for academic year 2016 (2015-2016). Print the survey and put your name and date on the top of each page. Submitted completed surveys to Dr. Biaglow by COB **Friday 2 September 2016**. Do not procrastinate. It is very important for our program assessment and re-accreditation that you complete it and return it on time.

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 - 1 August 2016." 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 - 1 August 2016." Answer the survey questions in "Part I" of this document based on your opinions of the data. The data pertain to the level of achievement of our 2016 program graduates.
- 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 opinions on 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 **Friday 2 September 2016**.
- 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:

- 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.
- Demonstrate effective leadership and chemical engineering expertise.

Chemical Engineering General Program Outcomes: 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: The program provides the graduate with a thorough grounding and working knowledge of the chemical sciences, including:

- General, organic, and physical 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 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"/>
· Design and conduct experiments as well as analyze and interpret data.	<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"/>
· function on multidisciplinary teams	<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"/>
· Understand their professional and ethical responsibilities.	<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"/>
· 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"/>
· 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"/>
· Demonstrate knowledge of contemporary issues.	<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"/>
· 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"/>

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

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?

I think offering a chemical engineering based transport phenomena course would be a great addition to the chemical engineering core curriculum. It would also be great to add an electrochemistry/electrochemical engineering class as an elective due to its industrial impact as well as current energy demands for Cadets to gain exposure/knowledge of.

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

The faculty survey is thorough and is asking all the necessary questions.

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

Name: GEOFF BULL

Date: 16 Aug 16

2016 Faculty Surveys

This is your annual faculty program assessment survey for academic year 2016 (2015-2016). Print the survey and put your name and date on the top of each page. Submitted completed surveys to Dr. Biaglow by COB Friday 2 September 2016. Do not procrastinate. It is very important for our program assessment and re-accreditation that you complete it and return it on time.

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 - 1 August 2016." 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 - 1 August 2016." Answer the survey questions in "Part I" of this document based on your opinions of the data. The data pertain to the level of achievement of our 2016 program graduates.
- 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 opinions on 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 Friday 2 September 2016.
- 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: BULL

Date: 16 Aug 16

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:

- 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.
- Demonstrate effective leadership and chemical engineering expertise.

Chemical Engineering General Program Outcomes: 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: The program provides the graduate with a thorough grounding and working knowledge of the chemical sciences, including:

- General, organic, and physical 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: BULLDate: 16 AUG 16

Part I. Student Outcomes. Review the data and then check the box 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 checked="" type="checkbox"/>
· Design and conduct experiments as well as analyze and interpret data.	<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 checked="" type="checkbox"/>
· function on multidisciplinary teams	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
· Identify, formulate, and solve engineering problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
· Understand their professional and ethical responsibilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
· Communicate effectively	<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 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 checked="" type="checkbox"/>
· Demonstrate knowledge of contemporary issues.	<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 checked="" type="checkbox"/>
· Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Name: BULL

Date: _____

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

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

Name: Bull

Date: 10/16/16

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 cover the core chemical engineering well. I think we need some additional Chemical Engineering electives/options, though we are constrained by faculty numbers and loads.

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.

Part I: #4: Cadets do well on teams but how do we really assess the multidisciplinary nature?

Part I: #7: Byg I think our embedded indicators for communication either need to be more carefully defined or we ~~need~~ need an assessment mechanism outside the grading system.

Part II: cadets don't like XE472 remedial action to be taken

Name: Biaglow

Date: 10 Aug 16

2016 Faculty Surveys

This is your annual faculty program assessment survey for academic year 2016 (2015-2016). Print the survey and put your name and date on the top of each page. Submitted completed surveys to Dr. Biaglow by COB **Friday 2 September 2016**. Do not procrastinate. It is very important for our program assessment and re-accreditation that you complete it and return it on time.

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 - 1 August 2016." 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 - 1 August 2016." Answer the survey questions in "Part I" of this document based on your opinions of the data. The data pertain to the level of achievement of our 2016 program graduates.
- 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 opinions on 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 **Friday 2 September 2016**.
- 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:

- 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.
- Demonstrate effective leadership and chemical engineering expertise.

Chemical Engineering General Program Outcomes: 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: The program provides the graduate with a thorough grounding and working knowledge of the chemical sciences, including:

- General, organic, and physical 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: BraggDate: 10 Aug 16

Part I. Student Outcomes. Review the data and then check the box 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"/>
· Design and conduct experiments as well as analyze and interpret data.	<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"/>
· function on multidisciplinary teams	<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"/>
· Understand their professional and ethical responsibilities.	<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"/>
· 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"/>
· 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"/>
· Demonstrate knowledge of contemporary issues.	<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"/>
· Have attained a thorough grounding in and working knowledge of the chemical engineering curriculum.	<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 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"/>
The program curriculum supports the program objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The student outcomes are consistent with the program mission and objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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"/>
The survey methods used by the program are effective.	<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"/>
The cadets have input into the development of the program objectives.	<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"/>
The faculty are aware of the program objectives.	<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"/>

Name: Bragg

Date: 10 Aug 16

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?

need process control

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

survey is good

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

None at this time.