Course Description

Discusses the major components that contribute to an effective process safety management program by providing methods to measure performance, facilitate metrics, integrate various roles of an organization into a process safety program, meet regulatory requirements, and not only establish, but maintain a safety culture.

Course Textbook


Course Learning Objectives

Upon completion of this course, students should be able to:

1. Describe the purpose of process safety metrics.
2. Describe the key tenets of OSHA’s Process Safety Management (PSM) standard.
3. Develop metrics to measure the efficacy of PSM program implementation.
4. Classify metrics by using the process safety pyramid.
5. List the characteristics of good metrics.
6. Develop a metrics program.
7. Communicate the results of a metrics program to different audiences within an organization.
8. Use strategies to convert documented metrics into actions that resolve instances within an organization.
9. Present several industry associations that help disseminate process safety metrics.
10. Describe future trends in the development and use of process safety metrics.

Credits

Upon completion of this course, the students will earn three (3) hours of college credit.

Course Structure

1. **Unit Learning Objectives**: Each unit contains learning objectives that specify the measurable skills and knowledge students should gain upon completion of the unit.
2. **Written Lectures**: Each unit contains a Written Lecture, which discusses lesson material.
3. **Reading Assignments**: Each unit contains Reading Assignments from one or more chapters from the textbook. Supplemental Readings are provided in the study guides for Units I, II, III, and VIII to aid students in their course of study.
4. **Key Terms**: Key Terms are intended to guide students in their course of study. Students should pay particular attention to Key Terms as they represent important concepts within the unit material and reading.
5. **Discussion Boards**: Discussion Boards are a part of all CSU term courses. Information and specifications regarding these assignments are provided in the Academic Policies listed in the Course Menu bar.
6. **Unit Quizzes:** This course contains eight Unit Quizzes, one to be completed at the end of each unit. Quizzes are composed of multiple-choice questions and/or matching.

7. **Assignments:** Students are required to submit for grading an assignment for each of Units I-VIII. All of these will be assembled together in Unit VIII as your final project. Specific information and instructions regarding these assignments are provided below.

8. **Final Project:** Students are required to submit for grading a PSM Project Paper in Unit VIII. Specific information and instructions regarding this assignment are provided below.

9. **Ask the Professor:** This communication forum provides you with an opportunity to ask your professor general or course content related questions.

10. **Student Break Room:** This communication forum allows for casual conversation with your classmates.

11. **Final Exam (Proctored):** Students are to complete a Final Exam in Unit VIII. All Final Exams are proctored—see below for additional information. You are permitted four (4) hours to complete this exam, in the presence of your approved proctor. This is an open book exam. Only course textbooks and a calculator, if necessary, are allowed when taking proctored exams. The Final Exam is a comprehensive 500 word essay.

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**Unit I Program Introduction**

As you progress through the course, each unit has an assignment that collectively, will make up a Process Safety Management metrics program. By the end of the course, you will have written a complete PSM metrics program. To begin, select an organization that would come under OSHA’s PSM standard. If you would like, you could use the following scenario:

**Refrigeration Warehouse:** A refrigerated warehouse has a total of 59 employees and a refrigeration system that uses Anhydrous Ammonia (NH\(_3\)) as a refrigerant. The system has an NH\(_3\) capacity of 17,000 pounds. This scenario is fairly simple in that the processes involved do not include chemical reactions. NH\(_3\) is basically compressed and allowed to return to the gaseous phase, and then the process starts all over again. Changing to the gaseous phase will result in a decrease in temperature due to the gas laws. These systems are closed systems; that is, the NH\(_3\) stays within the system and is not released to the outside. The cooled refrigerant runs through coils, and air is forced to blow through the coils. If the NH\(_3\) is vented to the outside due to an incident, however, the substance takes on its gaseous form and is extremely corrosive and capable of causing chemical burns.

If you choose this scenario, I would invite you to do some additional research on how large refrigeration systems operate.

Once you have decided on a scenario, write the introduction for your PSM metrics program. The Program Introduction should include:

1. An explanation why, given some of the OSHA PSM requirements discussed in your readings, a PSM metrics program would be helpful to the organization. For instance, why would it be important to measure the efficacy of a company’s Process Hazard Analysis efforts?
2. A discussion of the history of PSM metrics programs.
3. How PSM metrics programs have been helpful to other organizations.
4. Finally, a short paragraph, brainstorming how you might measure whether the Process Hazard Analyses conducted for your facility is appropriate for the complexity of the systems.

Assume your target audience includes a skeptical executive who thinks process safety metrics is just the latest buzz word developed by safety people who are always increasing costs for the organization. Your job, by the end of the course, is to have written a convincing document demonstrating how a PSM program is helpful to the organization.

The Program Introduction should meet all of the following criteria:

1. APA style
2. Cover page containing title of the paper, your name, course number, "Columbia Southern University," running header, and date
3. Second page starting with the heading "Introduction."
4. (Optional) "References" section; to be included only if you have citations in the Program Introduction
5. Minimum of 500 words, paying attention to grammar and spelling
References could be material from the reading assignment and/or any other resource(s) that support(s) your argument to implement a PSM metrics program.

After you submit the Program Introduction, your professor will make comments and suggest revisions that you should incorporate before submitting the complete PSM metrics program. For further feedback and discussion, contact your professor.

**Unit II Process Safety Management Metrics**

This section of the process safety metrics program includes Process Safety Management Metrics (PSMM), which discusses the importance of various metrics: lagging, near-miss, leading, activity, outcome, internal, external, absolute, and normalized.

Begin your PSMM section by considering your facility’s systems as they relate to process safety. Identify at least two ways to measure success for the overall PSM program and two or three specific metrics for at least five of the specific elements identified below, which are required by OSHA to be included in your PSM program. Please include Process Hazard Analysis, Operating Procedures, and Mechanical Integrity in your list of five elements. The other two elements to include are up to you to decide. Remember, the compliance elements include:

- Process Safety Information
- Process Hazard Analysis
- Operating Procedures
- Employee Participation
- Training
- Initial Training
- Refresher Training
- Training Documentation
- Contractors
- Pre-Startup Safety Review
- Mechanical Integrity
- Hot Work Permit
- Management of Change
- Incident Investigation
- Emergency Planning and Response
- Compliance Audits

After you have identified ways of measuring your overall program and selected elements, identify whether you believe the metric would be classified as a lagging, near-miss, or leading metric. For example, a company might have an outside consultant review Process Hazard Analyses (PHA) to determine if the technique used is appropriate given the complexity of the system. This would be a metric in that the report would provide information by which to gage success. A company may look at near misses to determine whether operating procedures are appropriate and look at deficiencies in operating procedures to determine if the PHAs were thoroughly completed. A company may also look at near misses as they tie to other PSM elements, or at overall program audits by third parties to evaluate the program as a whole, including OSHA compliance inspections.

Make sure you provide a thorough explanation of your tentative metrics in narrative form that is easy to follow and your rationale can be easily understood by your professor.

Also, keep in mind that this is just a brainstorming exercise. In the following unit, you will be asked to re-evaluate your tentative list of metrics to assure your list is consistent with the strategy underlying your overall plan. As you endeavor to demonstrate how a PSM program is helpful, keep in mind your target audience is skeptical about the value of a PSM program.

Your job, by the end of the course, is to have written a convincing document demonstrating how a PSM metrics program is helpful to the organization.

This assignment should include:
1. A table or other well-organized compilation of metrics that includes a means of measuring the efficacy of the overall PSM program and five of the individual elements.
2. A clear narrative explaining the metrics you are prescribing for measuring program efficacy.
3. Well thought material that is written in APA format.
4. A cover page containing title of the paper, your name, course number, Columbia Southern University, running head, and date.
5. A second page with the heading Process Safety Management Metrics.
6. A reference section (written in APA format) if applicable.
7. A minimum of 500 words.

References could be material from the reading assignment and/or any other resource(s) that support your argument to implement a PSM metrics program.

After you submit the paper, your professor will make comments and suggest revisions, which you should incorporate before submitting the complete PSM metrics program.

There is no need to include the Program Introduction from Unit I. You will combine all of the course projects as your Unit VIII submission. For further feedback and discussion, contact your professor.

**Unit III Metrics Strategy**

The next addition to the PSM Metrics Program is the Metrics Strategy. Here, you want to discuss the goals, objectives, and the reasons for selecting the metrics you plan to present as they relate to the strategy behind your proposed Metrics Program. Begin the assignment with a one-paragraph introduction about the Metrics Strategy. An overall metrics strategy, for instance, may include; improving measurement of PSM program effectiveness to provide needed measures to ensure incidents are kept to a minimum so as to restrain costs and enhance stakeholder relations.

This may be a very useful strategy for a large refrigerated storage facility that has had some mishaps in the past couple of years, which ultimately, results in bad press and employees getting sent to the hospital for Ammonia chemical burns. It costs a lot of money to evacuate a facility, and maintaining a good standing in the community is very important.

Follow the introduction with the three main sections: goals, objectives, and your metrics selection. Once your strategy is complete, you will need to identify goals consistent with your Metrics Program strategy. Make sure you also discuss the rationale for each goal you select as it relates to the overall strategy statement for the Metrics Program. For instance, the goals section should list the goals, and then discuss how each goal is important to the organization and how and why each goal is consistent with the Metrics Program strategy.

One process safety metrics goal consistent with the strategy statement summarized above, for instance, might include; identify overall PSM program costs as compared to benefits. Our metrics, in the present case, would want to focus on measuring the costs and benefits of the various program elements. An objective might be; quantify all outside contractor expenses related to PSM. Another might be; quantify internal labor costs related to PSM program administration However, it is likely there would have to be quite a few other objectives in order to actually get an estimate of overall costs and benefits for an entire PSM program. This overall effort would be a formidable undertaking.

Finally, identify and describe metrics that would be consistent with your goals and objectives. You had some practice brainstorming some metrics in the previous unit concerning whether the metric was lagging, leading, outcome, and so on. Here, however, you will need to focus more on your strategy, goals, and objectives to identify appropriate metrics.

Your metrics may be at the overall program level or specific to individual program elements. For instance, if your strategy focuses on reigning in contractors during outages at a large chemical plant, you would want to focus on the contractor requirements of the PSM standard. If your strategy includes a focus on mechanical integrity, you would obviously focus on that part of the standard. Make sure you can measure your objectives. If your strategy focuses more on establishing a facility culture that embraces safety and, more specifically, process safety as a core value, your goals, objectives, and metrics may be more focused on the overall program. This will help reassure top management that commitment, employee involvement, hazard analysis and control, employee training, and other related elements are being measured as they relate to process safety.
As you endeavor to demonstrate how a PSM program is helpful, keep in mind your target audience is skeptical about the value of a PSM program.

Your job, by the end of the course, is to have written a convincing document demonstrating how a PSM metrics program is helpful to the organization.

This assignment should meet all of the following criteria:

1. Introduction to the Metrics Strategy assignment
2. Goals listed
3. Discussion about the goals
4. Objectives listed
5. Discussion about the objectives
6. Metrics Selection listed
7. Discussion about the metrics selection
8. APA style
9. Cover page containing title of the paper, your name, course number, Columbia Southern University, running head, and date
10. Second page starts with the heading Metrics Strategy
11. Reference section (if applicable) written in APA format
12. Minimum of 500 words

References could be material from the reading assignment and/or any other resource(s) that support your objective for this assignment.

There is no need to include the projects from previous units. You will combine all of the course assignments for your Unit VIII submission.

For further feedback and discussion, contact your professor.

**Unit IV Metrics Implementation Milestone Chart**

This section of the program includes a Metrics Implementation Milestone Chart. Think of as many activities as possible for the chart that are applicable to your organization. You could have anywhere from 10 to 100 activities. A small number, such as 10, may not adequately address future needs, so a minimum of 15 may be more reasonable.

As you endeavor to demonstrate how a PSM program is helpful, keep in mind your target audience is skeptical about the value of a PSM program.

By the end of this course, you will have written a convincing document demonstrating how a PSM metrics program is helpful to the organization.

This assignment should contain:

1. A minimum of 15 items, activities, or events within the milestone chart.
2. A narrative that explains the milestone chart items, dependencies, and if they should be completed in order. The narrative should be a minimum of 300 words.
3. Material written in APA format.
4. A cover page containing title of the paper, your name, course number, Columbia Southern University, running header, and date.
5. A second page containing the heading Metrics Implementation Management Chart.
6. Include a paragraph introduction before presenting your milestones chart. Include additional text as needed to further describe your chart.
7. A reference section (if applicable) written in APA format.

References could be material from the reading assignment and/or any other resource(s) that support your argument to implement a PSM metrics program.
After you submit the paper, your professor will make comments and suggest revisions, which you should incorporate before submitting the complete PSM metrics program.

There is no need to include the assignments from previous units. You will combine all of the course projects as your Unit VIII submission. For further feedback and discussion, contact your professor.

**Unit V Case Study**

This section of the program includes a summary of a successful program (a "case study"). Find a book, journal article, or website describing a successful PSM program. Describe the PSM program in your own words. The case study does not need to be related to your organization or to the other sections of your paper that you have written thus far. Your selection could be similar to the material in Appendices II and III of our textbook, but do not use either of those as your example. The purpose of this section of your report is to show your boss the positive results that a PSM program can have.

Once again, remember your target audience and your ultimate goal. Present your information in a convincing manner in an effort to demonstrate how important a PSM metrics program will be to the organization.

This assignment should:

1. Briefly describe the organization.
2. Identify the metrics used.
3. Describe the improved behavior or performance.
4. Describe the methods which brought success.
5. Be written in APA format.
6. Include a cover page containing title of the paper, your name, course number, Columbia Southern University, running head, and date.
7. Include a second page that begins with the heading Process Safety Metrics Program - A Successful Case Study.
8. Include a reference section written in APA format.
9. Be a minimum of 500 words.

References could be material from the reading assignment and/or any other resource(s) that support your argument to implement a PSM metrics program.

After you submit the paper, your professor will make comments and suggest revisions, which you should incorporate before submitting the complete PSM metrics program.

There is no need to include the assignments from previous units. You will combine all of the course projects as your Unit VIII submission. For further feedback and discussion, contact your professor.

**Unit VI Communicating Results**

This section of the program includes a communications plan. For the organization that you have selected, your plan should include:

- The target audience (supervisors, managers, etc.) for each metric,
- Frequency that each audience member will receive a metrics report,
- The amount of detail in the report, and
- The delivery method (e.g., hard copy, email, website updates).

The purpose of this section of your report is to show your boss that you have prepared a plan to deliver metrics results to the people who need them.

This assignment should meet all of the following criteria:

1. Identify the target audience
2. Frequency that each audience member will receive a metrics report
3. The amount of detail in each report
4. Delivery method for each report
5. APA format
6. Cover page containing title of the paper, your name, course number, Columbia Southern University, running head, and date
7. Second page starting with the heading Communicating Results
8. Reference section (if applicable) written in APA format
9. Minimum of 500 words

References could be material from the reading assignment and/or any other resource(s) that support your argument to implement a PSM metrics program.

After you submit the paper, your professor will make comments and suggest revisions, which you should incorporate before submitting the complete PSM metrics program.

There is no need to include the assignments from previous units. You will combine all of the course projects as your Unit VIII submission. For further feedback and discussion, contact your professor.

**Unit VII Action and Rewards**

This section of the program covers acting upon metrics and rewarding employees for improving safety and/or performance. For the organization that you have selected, prepare a plan to reward employees for acting positively on the metrics that they are regularly provided. You can also mention how to hold poorly performing employees accountable and how to provide incentives (or consequences) for them to become positive performers. Feel free to use additional references showing what works, and what does not.

The purpose of this section of your report is to show your boss ways to encourage employees to act upon and incorporate the metrics that the company has collected and communicated to them.

Your assignment should meet all of the following criteria:

1. Identify reward system (rewards)
2. Identify accountability system (consequences or opportunities to improve)
3. Identify roles to enforce the plan
4. APA format
5. Cover page containing title of the paper, your name, course number, Columbia Southern University, running head, and date
6. Second page starts with the heading Action and Rewards
7. Reference section (if applicable) written in APA format
8. Minimum of 500 words

References could be material from the reading assignment and/or any other resource(s) that support your argument to implement a PSM metrics program.

After you submit the paper, your professor will make comments and suggest revisions, which you should incorporate before submitting the complete PSM metrics program.

There is no need to include the assignments from previous units. You will combine all of the course projects as your Unit VIII submission. For further feedback and discussion, contact your professor.

**Unit VIII Conclusion and Final PSM Program Project**

As you progressed through the course, each assignment required you to write a specific section of a PSM metrics program. This final section is the conclusion.

In addition to writing the conclusion, edit all previous assignments/sections based on the professor's comments. It is a combination of all of these assignments/sections that makes up your Process Safety Management metrics program.
The conclusion section should summarize your PSM plan. You can also incorporate industry-wide and future performance trends presented in the Unit VIII reading material.

Your submission should meet all of the following criteria:

1. APA style
2. Cover page containing title of the paper, your name, course number, Columbia Southern University, running head, and date
3. Table of Contents
4. Body
   a. Introduction - 500 words minimum
   b. Process Safety Management Metrics - 500 words minimum
   c. Goals, Objectives, and Metrics - 500 words minimum
   d. Implementing a Metrics Program - 300 words minimum
   e. Process Safety Metrics - A Successful Case Study - 500 words minimum
   f. Communicating Results - 500 words minimum
   g. Action and Rewards - 500 words minimum
   h. Conclusion - 300 words minimum
5. References

References could be material from the reading assignment and/or any other resource(s) that support your argument to implement a PSM metrics program. Please incorporate the professor’s feedback from your previous submissions.

Congratulations on writing a Process Safety Management Metrics Plan!

Submitting Course Papers/Projects

Once you have completed your papers/projects, submit your completed papers/projects by uploading through the “view/complete” link under the Assignment tab in each unit. Do not e-mail your paper directly to your professor. By using the Assignment tab, your university record will automatically be updated to indicate you have submitted your papers/projects and the assignment will be provided to your professor for grading. Instructions for submitting your assignment can be found under the Assignment tab in each unit.

APA Guidelines

CSU requires that students use the APA style for papers and projects. Therefore, the APA rules for formatting, quoting, paraphrasing, citing, and listing of sources are to be followed. A document titled “APA Guidelines Summary” is available for you to download from the APA Guide Link, found in the Learning Resources area of the myCSU Student Portal. It may also be accessed from the Student Resources link on the Course Menu. This document provides links to several internet sites that provide comprehensive information on APA formatting, including examples and sample papers.

CSU Grading Rubric for Papers/Projects

The course papers will be graded based on the CSU Grading Rubric for all types of papers. In addition, all papers will be submitted for electronic evaluation to rule out plagiarism. Course projects will contain project specific grading criteria defined in the project directions. To view the rubric, click the Academic Policies link on the Course Menu, or by accessing the CSU Grading Rubric link, found in the Learning Resources area of the myCSU Student Portal.

Final Examination Guidelines

Final Exams are to be administered to students by an approved Proctor. CSU approves two, flexible proctoring options: a standard Proctor, who is chosen by the student and approved by the university, or Remote Proctor Now (RP Now), an on-demand, third-party testing service that proctors examinations for a small fee.
A standard Proctor is an unbiased, qualified individual who is selected by the student and agrees to supervise an examination. You are responsible for selecting a qualified Proctor, and the Proctor must be pre-approved by CSU.

Students choosing RP Now must have an operational webcam/video with audio, a high-speed internet connection, and the appropriate system rights required to download and install software.

To review the complete Examination Proctor Policy, including a list of acceptable Proctors, Proctor responsibilities, Proctor approval procedures, and the Proctor Agreement Form, go to the myCSU Student Portal from the link below.

http://mycsu.columbiasouthern.edu

You are permitted four (4) hours to complete this exam, in the presence of your approved Proctor. This is an open book exam. Only course textbooks and a calculator, if necessary, are allowed when taking proctored exams.

Communication Forums

These are non-graded discussion forums that allow you to communicate with your professor and other students. Participation in these discussion forums is encouraged, but not required. You can access these forums with the buttons in the Course Menu. Instructions for subscribing/unsubscribing to these forums are provided below.

Click here for instructions on how to subscribe/unsubscribe and post to the Communication Forums.

Ask the Professor

This communication forum provides you with an opportunity to ask your professor general or course content questions. Questions may focus on Blackboard locations of online course components, textbook or course content elaboration, additional guidance on assessment requirements, or general advice from other students.

Questions that are specific in nature, such as inquiries regarding assessment/assignment grades or personal accommodation requests, are NOT to be posted on this forum. If you have questions, comments, or concerns of a non-public nature, please feel free to email your professor. Responses to your post will be addressed or emailed by the professor within 48 hours.

Before posting, please ensure that you have read all relevant course documentation, including the syllabus, assessment/assignment instructions, faculty feedback, and other important information.

Student Break Room

This communication forum allows for casual conversation with your classmates. Communication on this forum should always maintain a standard of appropriateness and respect for your fellow classmates. This forum should NOT be used to share assessment answers.

Grading

- Discussion Board (8 @ 2%) = 16%
- Unit Quiz (8 @ 1%) = 8%
- Unit I Program Introduction = 7%
- Unit II Process Safety Management Metrics = 7%
- Unit III Metrics Strategy = 7%
- Unit IV Metrics Implementation Milestone Chart = 7%
- Unit V Case Study = 7%
- Unit VI Communicating Results = 7%
- Unit VII Action and Rewards = 7%
- Unit VIII Conclusion and Complete PSM Program = 13%
- Final Exam = 14%
- Total = 100%
**Course Schedule/Checklist (PLEASE PRINT)**

The following pages contain a printable Course Schedule to assist you through this course. By following this schedule, you will be assured that you will complete the course within the time allotted.
By following this schedule, you will be assured that you will complete the course within the time allotted. Please keep this schedule for reference as you progress through your course.

**Unit I  Program Introduction**

| Review: |  □ Unit Study Guide |
| Read: | Guidelines for process safety metrics  
  □ Preface  
  □ Chapter 1: Introduction  
  □ Chapter 2: Why Implement Process Safety Metrics  
  Process Safety Management: Publication No. 3132  
  □ Pages 1-18  
  Supplemental Reading  
  □ Located below Written Lecture in the Study Guide |
| Discuss: |  □ Discussion Board Response: Submit your response to the Discussion Board question by Saturday, Midnight (Central Time) |
| Submit: |  □ Program Introduction: Complete and submit through SafeAssign by Tuesday, Midnight (Central Time)  
  □ Quiz by Tuesday, Midnight (Central Time) |

Notes/Goals:

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**Unit II  Process Safety Management Metrics**

| Review: |  □ Unit Study Guide |
| Read: | Guidelines for process safety metrics  
  □ Chapter 3: Process Safety Management Metrics  
  Process Safety Management: Publication No. 3132  
  □ Pages 18-27 and review appendices  
  Supplemental Reading  
  □ Located below Written Lecture in the Study Guide |
| Discuss: |  □ Discussion Board Response: Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)  
  □ Discussion Board Comment: Comment on another student’s Discussion Board response by Tuesday, Midnight (Central Time) |
| Submit: |  □ Process Safety Management Metrics: Complete and submit through SafeAssign by Tuesday, Midnight (Central Time)  
  □ Quiz by Tuesday, Midnight (Central Time)  
  □ Proctor Approval Form by Tuesday, Midnight (Central Time) |

Notes/Goals:
# Unit III: Metrics Selection

**Review:**
- Chapter 4: Choosing Appropriate Metrics
- Appendix I: Listing of Potential Process Safety Metrics to Consider (Based on the Risk Based Process Safety Elements)

**Supplemental Reading**
- Located below Written Lecture in the Study Guide

**Discuss:**
- Discussion Board Response: Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)
- Discussion Board Comment: Comment on another student’s Discussion Board response by Tuesday, Midnight (Central Time)

**Submit:**
- Metrics Strategy: Complete and submit through SafeAssign by Tuesday, Midnight (Central Time)
- Quiz by Tuesday, Midnight (Central Time)

**Notes/Goals:**

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# Unit IV: Preparing to Implement a Metrics Program

**Review:**
- Unit Study Guide

**Read:**
- Chapter 5: Implementing a Metrics Program, pages 53-72

**Discuss:**
- Discussion Board Response: Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)
- Discussion Board Comment: Comment on another student’s Discussion Board response by Tuesday, Midnight (Central Time)

**Submit:**
- Metrics Implementation Milestone Chart: Complete and submit through SafeAssign by Tuesday, Midnight (Central Time)
- Quiz by Tuesday, Midnight (Central Time)

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<tr>
<td><strong>Review:</strong></td>
<td>☐ Unit Study Guide</td>
</tr>
<tr>
<td><strong>Read:</strong></td>
<td>☐ Chapter 8: Improving Industry-Wide Performance</td>
</tr>
<tr>
<td></td>
<td>☐ Chapter 9: Future Trends in the Development and Use of Process Safety Metrics Supplemental Reading</td>
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<td>☐ Located below Written Lecture in the Study Guide</td>
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<tr>
<td><strong>Discuss:</strong></td>
<td>☐ Discussion Board Response: Submit your response to the Discussion Board question by Saturday, Midnight (Central Time)</td>
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<td>☐ Discussion Board Comment: Comment on another student’s Discussion Board response by Tuesday, Midnight (Central Time)</td>
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<td><strong>Submit:</strong></td>
<td>☐ Conclusion and Complete PSM Program: Complete and submit through SafeAssign by Tuesday, Midnight (Central Time)</td>
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<td>☐ Quiz by Tuesday, Midnight (Central Time)</td>
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<td>☐ Final Exam by Tuesday, Midnight (Central Time)</td>
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**Notes/Goals:**