

# Project 1 Train Accidents

September 5, 2016

*Assignment:* Submit a report showing what, if any, actions the Federal Railroad Administration can take to reduce the severity of rail accidents. Your recommendation must be supported by evidence from accident data for the last 14 years (2001-2015). You should follow the steps of evidence informed systems engineering (EISE) as discussed in class to answer this question. Your submitted report must use the template available on the class collab site for this project (Proj1Template.pdf) **Submit your report before 11:59 pm on October 2, 2016.**

*Assignment:* In addition to the final report, there will be in-class assignments and peer evaluation related to project work before the final project deadline so it is important that you stay on track and don't wait until the last minute to complete the project. The below table presents guidelines for when each piece of the project should be completed.

Project Sections	Date
1. Situation, Goal, Metrics, Hypotheses, Data	<b>Sept. 16, 2016</b>
2. Situation, Goal, Metrics, Hypotheses, Data, Analysis	<b>Sept. 23, 2016</b>
3. Situation, Goal, Metrics, Hypotheses, Data, Analysis, Evidence	<b>Sept. 30, 2016</b>
Final Report	<b>Oct. 2, 2016</b>

*Assignment Objective:* In this assignment, you will demonstrate that you can use evidence informed systems engineering to address a major safety problem.

## *Instructions:*

1. You are encouraged to discuss this assignment with other students in the class. However, **write your report with your assigned group** and reference any contributions from others. You must pledge your group submission.
2. Use the assignment page on the collab site for submission. Each group member must submit the team report in **pdf** and not in any other format. Do not submit a paper copy of the report.
3. Follow the format of the Project 1 template (Proj1Template.pdf). If you feel deviations from this format are needed then discuss this with an instructor before your submission.
4. Reference all material used in preparation of this report. As a minimum **you should reference this assignment, the lab template, and the source of the data.** Also, provide references to any background material on train accidents that you use in preparing your report. See the

Project 1 template for examples. You may use the style shown in the templates (IEEE) or another accepted style used by professional engineering societies.

5. All quoted or verbatim material should be appropriately formatted. If you have questions, ask the instructors or teaching assistants.
6. Your report should be directed at a practicing systems engineer. That means you do not need to explain techniques or the mechanics of methods. Keep your discussion succinct and to the point. However, you must provide some discussion of your results whether graphical or model-based. If you simply show graphics or model results without explanation then your reader (grader) will not understand your message.
7. Put extra material (e.g., variable descriptions, extra supporting graphics, or code) in appendices. The main body of your report does not need to be long; just **long enough to convey the recommendation with evidence. Superfluous text will be penalized.**
8. Include your graphics as numbered figures and reference the numbers in your discussion.
9. Number all pages of your report but the title page. So, start with number one on first page after the title page.
10. You may use single or double spacing. For the body text do not use fonts smaller than 10 pt. or larger than 12 pt.
11. Write the report in first person singular and in present tense. Use past tense for work you have completed.
12. Edit your writing. You will lose points for spelling, grammatical, and usage errors.
13. For large images use bitmap formats (e.g., jpeg, jpg, png) not vector (e.g., pdf).
14. If you have a report from a student who took the class in a previous year, beware! The assignments change between years.
15. At the culmination of the project, you will complete a self and peer evaluation of your team members via the online tool CATME. Individual grade deductions will be made for unsatisfactory evaluations.