

**DESIGN PLAN (SAMPLE)**

Safety Basics Course

Company: Acme Incorporated

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## Design Plan

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## Rationale

Rail transport is one of the oldest modes of travel and shipment in the United States. Trains have endured the Industrial Revolution, the Aviation Age, as well as the Age of Information (“Rail Transport,” 2024; “History of Transport,” 2024). They evolved from steam engines to electric engines with inventions like the railway air braking system making them even safer than their predecessors (“Rail Transport,” 2024; “Railway Air Brake,” 2024). To maintain railway safety, organizations like the Federal Railroad Administration (FRA) regulate the railroad industry. Noncompliance with safety laws and regulations can result in massive fines, injuries, and death. At Acme Incorporated, safety is the highest priority. To comply with laws and regulations, Acme Incorporated and other railroad companies must ensure that conductor trainees are knowledgeable on railroad safety guidelines as mandated by state and federal administrations (Norfolk Southern, n.d.).

The purpose of this course is to teach conductor trainees the proper safety procedures required to enter the rail yard. The minimum allotted time for this course is two hours giving conductor trainees a sufficient amount of time to learn the necessary skills to work in a rail yard. Given a two-minute video, the *Safety Basics Student Workbook*, and several classroom activities, the conductor trainee should be able to demonstrate the skills to successfully complete the final assessment with the minimum requirements. The target population for the *Safety Basics Course* is newly hired trainees at Acme Incorporated. The maximum capacity for each session of this course is 20 conductor trainees.

## **Target Population**

This course is intended for newly hired conductor trainees with minimal to no experience in the rail yard. Additionally, the conductor trainee must have at least a high school diploma or a General Education Development (GED) certificate. At the completion of this two-hour classroom course, the conductor trainee should be able to properly identify the safety procedures required to work in a rail yard without error.

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## Objectives

### Terminal Objectives

1. Given a two-hour classroom session, a two-minute video, the *Safety Basics Student Workbook*, several classroom activities, and practice sessions, the conductor trainee should be able to complete the 20-question compliance assessment with a score of 85% or better in two attempts. (Cognitive)
2. Given a two-hour classroom session, a personal computer, a two-minute video, the *Safety Basics Student Workbook*, several classroom activities, and practice sessions, the conductor trainee should be able to complete the online safety simulation with a score of 85% or better in two attempts. (Cognitive)

### Enabling Objectives

1. Given a personal computer and the two-minute introductory video the conductor trainee should be able to identify the six pieces of Personal Protective Equipment (PPE) required to enter the rail yard. (Exercise 1: Identify Safety Equipment)
2. Given a personal computer and the *Railway Safety Simulator*, the conductor trainee should be able to complete the simulation without assistance. (Exercise 2: Online Safety Simulation)
3. Given a railroad scenario, the conductor trainee must identify the eight steps required to report a railway incident. (Exercise 3: Role Play)

### Informal Objectives

1. Identify the six pieces of Personal Protective Equipment (PPE) required to enter the rail yard
2. List the eight steps required to report a rail road incident
3. Pass the 20-question exam with a score of 85% or better
4. Pass the online graded simulation with a score of 85% or better

## **Course Description**

The instructor-led *Safety Basics Course* will teach the conductor trainee how to prepare for a typical day on the rail yard. Instructional methodologies include a video, extensive hands-on training, several classroom activities, and practice sessions. The classroom should contain at least 20 personal computers and the recommended class size is 20 trainees or less.

## **Evaluation Strategy**

This course will utilize a competency test and a graded simulation to determine the success of conductor trainees (Level 2). The repetitive practice exercises and extensive hands-on work should familiarize trainees with the standard railroad operating procedures. At the end of the course, trainees will complete the competency test to evaluate what was practiced throughout the duration of the course. Facilitators should also distribute a survey to conductor trainees after the completion of the competency test to outline areas of improvement for the course (Level 1). The instructor-led *Safety Basics Course* is one of many courses in a series of classes designed to prepare trainees for a typical day in the rail yard. The skills learned in the introductory course should help trainees in the next course in this series.

## **Participant Prerequisites**

Participants should have a high school diploma or General Education Development (GED) certificate.

## **Facilitator Prerequisites**

The facilitator should have at least one year of corporate training or teaching experience and must attend the two-hour train-the trainer session before teaching a course.

## **Deliverables**

- Design plan
- Facilitator's guide
- *Safety Basics Course Student Workbook*
- *Safety Basics Course* two-minute video
- Handouts and exercises (Online Safety Basics Simulation Practice)
- Evaluation instruments (20-Question Exam and Online Graded Simulation)

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## References

[*Rationale*]

Norfolk Southern Corporation. (n.d.). Get to know NS: Vision & Values.

U.S. Department of Transportation. (n.d.). Federal Railroad Administration.

Wikipedia. (2024). History of Transport.

Wikipedia. (2024). Railway Air Brake.

Wikipedia. (2024). Rail Transport.

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## **Lesson Plan**

Facilitator's Guide

**Preparation for Learning**

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Implementation Time: 2 Hours (120 minutes)

*Materials*

- *Safety Basics Course* video (digital version) (1)
- *Safety Basics Course Facilitator's Guide* (1)
- *Safety Basics Course Student Workbook* (25)
- Pens (25)
- Evaluation Surveys (25)

*Equipment*

- Facilitator laptop or personal computer with internet connectivity hooked up to a printer and a video display
- Large video display
- 20 personal computers loaded with the *Safety Basics Course* video

**Classroom Preparation**

*Day before:*

- Make sure classroom contains facilitator's and participants' computers, printer, and video display
- Check that all computers are hooked up properly this includes the facilitator's computer to the projector
- Power on all computers to make sure they work properly and confirm the *Safety Basics* video is on the desktop of all computers
- Test the video on the facilitator's computer to ensure it plays on the screen
- Test internet connectivity on the facilitator's computer
- Make sure each workstation contains a pen and a *Safety Basics Student Workbook*

*Two hours before:*

- Power on all computers
- Open the video on each computer and minimize it in the taskbar

**Gaining Attention**

**5-6 minutes**

**Turn to page #2, *Safety Basics Course Student Workbook*, “Welcome to the Safety Basics Course.”**

*Prestart: Call the participant together and start the course.*

*In your own words...*

Greet and welcome the participants to the course. Introduce yourself and inform participants that the entire course is two hours however you will take breaks accordingly. Conduct a safety briefing. Let the participants know that the course can be demanding at times, but their hard work will pay off in the long run. Tell the participants that you're there to help them and answer their questions. Review any classroom policies. Finally, inform participants that you are starting the course with a short video and for them to pay special attention to the actors in the video.

*Probe for questions before you start the video.*

**Show the *Safety Basics Course* video (1 minute)**

**Start the video and give participants the option to watch the video on their desktops or on the projection screen.**

*In your own words...*

When the video ends, tell participants that railroad safety helps keep everyone safe. One false move could result in injury or death. Now, have the participants identify Personal Protective Equipment (PPE) they noticed while watching the video.

*Circulate the classroom and call on volunteers.*

**Direction (Objectives)**

**1-3 minutes**

**Turn to page #3, *Safety Basics Course Student Workbook*, “Course Objectives”**

*In your own words...*

Tell participants to turn to page 3 of the workbook and review the objectives as you read them aloud. At the end of this course, you should be able to

1. Identify the six pieces of personal protective equipment (PPE) required to enter the rail yard
2. List the eight steps required to report a rail road incident
3. Pass the 20-question exam with a score of 85% or better
4. Pass the online graded simulation with a score of 85% or better

Inform participants that the course is filled with hands-on exercises and requires them to actively participate for maximum benefits.

**Recall**

**10 minutes**

**[Add Recall instructions here]**

**Delivery and Practice of New Material**

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**Content** **XX minutes**  
[Add Course Content here]

**Application Feedback – Level 1** **XX minutes**  
[Add Application Feedback – Level 1 instructions here]

**Application Feedback – Level 2** **XX minutes**  
[Add Application Feedback – Level 2 instructions here]

**Application Feedback – Level 3** **XX minutes**  
[Add Application Feedback – Level 3 instructions here]

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**Wrap-Up**

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**Evaluation**

**XX minutes**

[Add Level 2 Evaluation instructions here]

**Closure**

**XX minutes**

[Add Closing Comments and Level 1 Evaluation instructions here]

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