# Virtual Roller Coaster Design Handout

Frank Jamison, National University

## Lesson Instructions

Design a roller coaster using the Roller Coaster Creator software. Your roller coaster must meet the following criteria:

* Height: at least 100 feet
* Length: at least 1000 feet
* Number of loops: at least 1

Once you have designed your roller coaster, simulate it using the Roller Coaster Creator software.

Identify any areas of your roller coaster that need to be redesigned, such as areas where the train goes oﬀ the track or where the train slows down too much.

Make necessary changes to your roller coaster design and simulate it again. Continue this process until you are satisﬁed with your roller coaster design.

## Assessment Criteria

Your roller coaster design will be assessed based on the following criteria:

* Creativity of the design
* Accuracy of the design
* Completeness of the design
* Quality of the simulation

## Creativity of the design

Your roller coaster design should be creative and original. You should use a variety of track pieces and create diﬀerent types of hills, loops, and turns.

## Completeness of the design

Your roller coaster design should be complete. You should have a starting point, a ﬁnishing point, and a variety of hills, loops, and turns in between.

## Quality of the simulation

Your roller coaster simulation should be smooth and realistic. The train should not derail or slow down too much.

## Submission

Please submit your roller coaster design and simulation to the teacher for review. You should also include a brief presentation about your design process and any challenges you faced.