

# Me293 – Project Management and Social Responsibility

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## FMEA and a New Bicycle Prototype

Your team has been tasked with re-imagining the bicycle.



Bicycle design is very mature. Typically, that means that most designs have been thought of and tried and a standard configuration has been settled upon by most of the worlds designers. With the advent of new materials and the buying public's new and evolving aesthetic sensibilities your company thinks there is some room to move within the genre called 'Bicycle'.

Review the following websites and see past the bicycle you have been riding since you were a child.

- [thecoollest.com](http://thecoollest.com)
- [incrediblethings.com](http://incrediblethings.com)

Take one of these designs and 'make it yours'. Embrace it. Understand it.

Modify or alter it as you see fit.

Produce as good a sketch as you can of your design.

Now for the work part of this assignment.

You are now asked to take your new bicycle through the FMEA process.

Here is how to get started and how to limit the depth to which your FMEA will go to.

- a. Review the FMEA document on the course website. The first page is an introduction and summary of what you need but read through the other two pages as well to get a more detail view of how to do this assignment.
- b. Select seven components on your bicycle and think about all reasonable and realistic ways that something can go wrong with each (failure modes).
- c. Organise your FEMA work as in Figure 1. Really think about the ratings you give and fill in your table as they have done.
- d. Now re-order and re-think your failure modes based on the RPN values you generated in step c. Create a Corrective Actions table similar to Figure 2. What Corrective Actions you think are necessary to address the issues discovered in your FEMA process. Calculate the new RPN value for each type of failure mode identified.