**Nick Kamarianakis**

**Outline of the Project Outline**

**Question**: What material to use for the body of the bike and to house its electrical components?

**Engineering Principles:** cost effective, durable, lightweight

**Housing Electrical Components:** 20% Glass Filled Polycarbonate (PC)

* Highly Impact Resistant
* Good Flammability Rating
* Great Electrical insulation properties
* Easy to machine
* Can vary in thickness and glass%
* lightweight

\*medium-cost

**Body Panels:** Fiberglass Reinforced Polyester (FRP)

* Lightweight
* Can be made more efficiently
* Non-corrosive
* Weather-resistant Properties
* Less expensive than PC
* More attractive appearance
* Scratch and graffiti resistant
* More flexible and easier to mold

Basically, PC is a better choice for housing electrical components because it can be made to thickness’ up to 60mm whereas FRP is most commonly made at up to 10mm. PC is more expensive than FRP but because it is being used for only the housings, it requires much less of the material. FRP can be made more efficiently and cheaply, and provides a much more attractive appearance as it can be have many different gloss finishes and come in pretty much any color. Also, during production, FRP is more flexible and much easier to mold therefore would be a better choice for the outer body panels.

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**This is what I am planning on putting in my portion of the slide, still gonna tweak it a bit but I just want your opinions on if, it is too long, if my principles are wack or if I am missing some important info? My handout will look mostly like this with a more summarized version of the last paragraph. But all in all this is the material ill cover in the presentation on Monday. Thanks!**