



SENIOR DESIGN ORGANIZATION SYNOPSIS – SPRING 2013

Shell Eco-marathon

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The Shell Eco-marathon is a global competition between many schools and countries where a self-made vehicle is pushed to its limits to achieve maximum fuel efficiency. The basis of this project is to design and manufacture a fuel efficient vehicle that can be driven at an average speed of 15 miles per hour on one gallon of fuel. Since the competition of this project is in April, Dynamic Engineering Solutions will be unable to participate this year. However, there will be collaboration on this project between the current 2013 Florida International University Shell Eco-marathon team and Dynamic Engineering Solutions. After the April 2013 competition is over, Dynamic Engineering Solutions will receive the 2013 model vehicle and remodel, redesign, and remanufacture the new 2014 Shell Eco-marathon vehicle.

The FIU Shell Eco-marathon vehicle will show off many worldwide benefits to transportation. The 2014 model will particularly focus on alternate fuel sources, lightweight components, and aerodynamic design. As a priority for Dynamic Engineering Solutions, and applying more engineering knowledge, changing the fuel source and engine will not be the only optimization to the current vehicle. Distance traveled by any vehicle is also greatly dependent on weight and aerodynamics. As such, the 2013 model will take a huge redesign and weight reduction, along with several tests with different power alternatives. Redesigning, remodeling, and remanufacturing the existing Shell Eco-marathon vehicle will naturally further improve an already established form of transportation. From modern passenger and all-terrain vehicles, to trains and theme park attractions, the Shell-Eco Marathon vehicle will present many benefits to worldwide transportation.