



Shell Eco-Marathon



Problem Statement

Build a fuel efficient car prototype that will yield maximum mpg at 15 mph to be used in the Shell Eco Marathon in Houston, TX.

Objectives

- Use a internal combustion engine
- Minimize weight of the car
- Maximize efficiency with available budget

Proposed Design

- Aerodynamic design that will reduce air friction
- Body and chassis made of carbon fiber to optimize strength/weight of the vehicle
- 4-stroke centrifugal clutch engine
- Steering system to facilitate a 6 m radius curve
- Front and back-wheel braking systems capable of holding the car on a 20 degree slope.

Motivation

- Represent FIU in this worldwide recognized competition.
- Gain knowledge and experience in the future of transportation

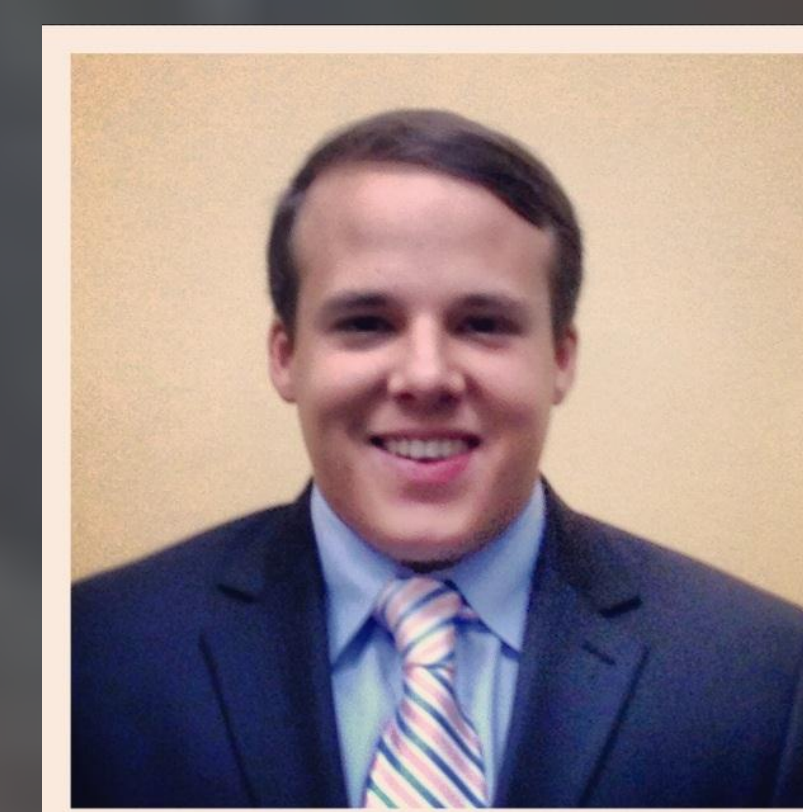
Prototype and Testing

The car will be built at least one month prior to the competition. The same model will be used after the necessary adjustments.

Project Timeline

Senior Design - Eco Shell Marathon																			
2012												2013							
September				October				November				December				January	February	March	April
9/9/12	9/16/12	9/23/12	30-Sep	10/7/12	10/14/12	10/21/12	10/28/12	11/4/12	11/11/12	18/11/12	11/25/12	12/2/12	12/9/12	12/16/12	12/23/12				
Phase I: Research and Design																			
Rules and Regulations																			
Previous Designs																			
Engine Selection																			
Design and Material																			
Steering and braking systems																			
Report 10%																			
Wheels and Tires																			
Report 25%																			
Computer Design & Simulations																			
Report 100%																			
Poster																			
												Part II: Manufacturing and Testing							
Competition																			

Team Members



Fernando Pinheiro



Marco Betancourt



Bryand Acosta

Advisor: Prof. Igor Tsukanov