

Design Requirement Form		
Date:	10/3/2017	
Design Project Title:	Electric Tricycle	
Team Name:	E-Trike Team	
Team Advisor	Dr. Charles Kim	
Team Assistant	Mr. Tim Brown	
Project's Long Term Goal	To Successfully Complete an Electric Trike to provide a source of reliable and clean energy transportation to consumers.	
Project's 2017-2018 Academic Year Goal	To successfully obtain all the parts needed for the trike and for the trike to successfully obtain charge in the lithium battery to provide the Trike with Power.	
Team Members (Design Class)	Adaugo Anyamele(EE), Breyonna Pinkney(EE), Felicia Long(EE), Kasandra Price(EE), Mercy Daniel-Aguebor(EE), TiAuna Dodd(CpE)	
Team Members (Others)		
Requirements	Descriptions	Source
Background (NEED)	Physically disabled people are not able to use bicycle as an affordable means of transportation	
Objective (Problem)	Should support/amplify pedaling done to reduce human energy used	
Performance	The Electric Tricycle should be: Have a battery that weighs less than 5 pounds. Should have a fully functional battery system that allocates efficient use of battery resources, Be able to go at least 10miles on a single charge. Be rechargeable in a safe and customer friendly way	Federal Motor carrier Safety Administration.
Cost	The lithium batteries must be less than \$900. Maintenance must be less than \$100 a year. Must be completed and ready for testing by 5/05/18.	
Safety	The bike will have a seatbelt when testing it. The electric dosage that is being used to test the bike will be low enough not to cause harm to humans.	The Consumer Safety Product Commission (CSPS)

Compliance	The Electric Tricycle has to comply with the Federal Electric Trike Regulations in the District of Columbia: Does not require a license or registration, wheels at least 16 inches in diameter, a source of power no more than 20mph	The Consumer Product Safety Act
Driver-Vehicle Interface	The Interface consists of : buttons to indicate the gear or speed of the tricycle. A button/switch to control the safety lights. A simple interface that predicts the battery level and the distance left or miles traveled.	
Energy, Power, and Environment	The Electric Tricycle has to follow the Consumer Product regulation for bicycles: 16 CFR 1512 "FEDERAL HAZARDOUS SUBSTANCES ACT REGULATIONS REQUIREMENTS FOR BICYCLES"	
Intellectual Property	The E-trike must not infringe on the rear axle Tricycle Apparatus pattern. US4183418 A	Code of Federal Regulation USPTO
Size and Weight	The E-trike should weigh between 80-100lbs.	
Deliverables	A successfully working product that runs on leveled ground more than 10 miles.	
Others		
Others		