Lauren Robinson – Cube Satellite

Spring 2018 - Mini Project

Requirements	Specifications
Must simulate power flow	Device will use a GUI from Matlab
Must be adaptable for different components and circuit structures	Real part values will be used in the simulation models
Must be able to simulate modes	

Fall 2018 - Hardware Design of Cubesat Power Testbench (subject to change based on budget)

Requirements	Specifications
Must be able to simulate power system of real Cube satellite	Device will use four buck converters to convert to required nominal voltage
Must have the ability to simulate different modes	Device will use variable voltage converter for telecommunications portion of satellite
Must account for heater on battery pack	Device will use an arduino microcontroller to simulate modes
Must be adaptable for different battery capacities	Device will be simulated and calculated prior to installation
Must be able to connect to components with different nominal input voltages	
Must be able to distribute different nominal voltages from one battery pack	
Must contain a chargeable battery	

Spring 2019 - Dependent on budgetary restrictions