Lauren Robinson – Cube Satellite

**Spring 2018 - Mini Project**

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| **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)**

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| **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**