

# Electronics Project (Engn 208, winter 2019): Conceptual Design and Bill of Materials

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Due: Wed, 06 Feb 2019, 5pm.

This design document is essentially a revision and completion of the initial project details you submitted last week. It should specify the **individual components**, and detail how they are to be **integrated into the overall electronics system**. Notably, it should provide a complete **bill of materials**, such that parts can be readily ordered. Where appropriate, you may copy + paste from the previous design document, but be sure to provide fully up-to-date details.

## System Overview and Bill of Materials:

1. Briefly recapitulate the main aim of your project.
2. What individual components do you need?
3. How will these components be integrated into a complete functioning system? Show a block diagram/circuit schematic, as appropriate.
4. **Bill of Materials.** Please complete the table below. An example is shown to help get you started. Be sure to LINK the part and specify part number (makes it easy to quickly load up carts and place orders). For Adafruit, look for "Product ID: xxxx". Note the total below. Please be mindful of your team's (initial) budget of \$150.

Component Type	Use in system?	Vendor/Part # Linked URL	Quantity	Cost per unit (\$) [nearest dollar]	Subtotal (\$) [nearest dollar]
Pressure Sensor	Detect variations in water level and velocity	<a href="#">Sparkfun SEN-12909</a>	2	60	120
Inertial Measurement unit	Measure linear and rotational acceleration	<a href="#">Sparkfun SEN-13762</a>	1	15	30
Adafruit Feather LoRa radio	MCU + wireless dev board for sensor readings and wireless communication	<a href="#">Adafruit: 3178</a>	1	35	35
LiPo Battery (3.7V; 2000 mAh)	System Power	<a href="#">Adafruit 2011</a>	1	13	13
8 GB microSD card	Data logging	<a href="#">Bestbuy 4656701</a>	1	5	5
<b>TOTAL</b>					203