ECET365 Week 4 iLab Cover Sheet

DeVry University

College of Engineering and Information Sciences

**Course Number:** ECET-365

**Professor:**

**Laboratory Number: 4**

**Laboratory Title:** System and Subsystem Power Supplies

**Submittal Date:**Click here to enter a date.

***Objectives:***

A. Test the main power supply of the Robotic Car or robotic system.

B. Test the subsystem power supplies and determine if a separate battery system is required for the subsystems.

***Results:***

***Conclusions:***

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| ***Team:*** |  |  |  |  |  |
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***Observations/Measurements:***

1. For each subsystem, determine the actual current draw. If a sensitive ammeter is not available, use a small (0.1 or 1 ohm) resistor is series with the power lead. Measure the voltage across the resistor and calculate the current using Ohm’s Law (I = V/R).
2. Video sensor \_\_\_\_\_
3. Servo \_\_\_\_\_
4. CPU board \_\_\_\_\_
5. Motor \_\_\_\_\_
6. Sketch the subsystem power voltages displayed by the oscilloscope. If noise was discovered and reduced, sketch the display before and after the noise was reduced. Include the sketches below:
7. Calculate the expected operating time for the system. Ensure that the motor power operating lifetime will not exceed the CPU board operating lifetime.

Motor System Lifetime \_\_\_\_\_

CPU Board Lifetime \_\_\_\_\_

1. Let the system run until either the CPU board or the motor stops running. If the CPU board stops before the motor does, increase the capacity of the CPU board power supply.