

CHEG 3128 – Chemical Engineering Junior Laboratory
Spring 2017 – Battery III Assignment

Problem Statement: Design a battery pack that can seamlessly REPLACE the AA batteries that are used to operate a child's toy.

Following the laboratory discussion and demonstration period, your team will work together to do the following:

1. Purchase a toy that operates on at least 3 AA batteries.
2. Determine the base and transient power requirements for the device. In essence, how much power does the battery need to function?
3. Build a battery pack that is able to continuously operate the toy (not the remote control for the toy, if applicable). The batteries do not need to fit into the AA chambers; however, the toy will need to be modified to house the battery pack you create. Also, the batteries are required to be fully enclosed to avoid any spillage, etc. for safety.

There will be both written (homework-style) and in-person deliverables in this lab. On the written side, you will need to document which toy you purchased and what the power demands for that toy are. Please detail how you determined the power requirements. Also, report the iterations that you made in the design of the battery pack as well as how the toy was modified to house the battery pack. Please discuss your thought process for the battery design and what led to the changes in each iteration. Again, the discussion need not be lengthy. The due date for this assignment is given in the syllabus on Husky CT.

The in-person deliverable will be a demonstration of the toy working on the designed battery pack during the "Battery 4" laboratory period assigned to your group.

Also, please feel free to engage the faculty and TA's with questions or any other needed support!