

## Memorandum

**To:** EE - 41440 design teams  
**From:** Dr. Schafer  
**Date:** Monday, January 16, 2023  
**Subject:** Spring Semester Design Reviews

At several points in the semester, the every other week meeting will be a more formal design review or there will be specific deliverables. This is a description of the contents of the reviews and a schedule for when they will occur.

### **Design Review 0**

When: Week of January 23<sup>rd</sup>

Content:

- Provide a document with a system block diagram and a list of all major subsystems.
- Provide a list of requirements for each subsystem.
- Give a written plan for achieving the requirements for design reviews 1 and 2, which are a complete subsystem design and subsystem hardware demonstration, respectively.

Comments:

- Pay particular attention to things that you don't yet know how to do, or things that you don't yet know will work.
- Identify things with long lead times such as things that you will have to have a board made to properly test.
- Verify availability of components that you expect to use.
- It is expected that you will be developing your project using kit boards or other development boards that are available in the closet, at you cannot wait until you have designed your board.
- Get something similar that you find online working, and use that as a starting point for what your project requires.

### **Update Meeting:**

When: Week of February 6<sup>th</sup>

### **Design Review 1:**

When: Week of February 13<sup>th</sup>

Content:

- Provide a detailed design of each major subsystem.
- Give a detailed description of all major components and describe the function they serve in your design and how the devices work.
- Specify essential connections on all major components. These would include all power and ground connections (with appropriate values for device voltage and

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expected current requirement), decoupling, and other essential support connections such as clocking, programming, etc.

- There are likely to be a set of problems that you are not clear on how you will solve them. Give a list of these items and an action plan to reduce them to solved problems.

### **Design Review 2:**

When: Week of March 6<sup>th</sup>

Content: Subsystem Demonstrations

- **Demonstrate** that each subsystem is working. Note that it is not expected that the subsystems work together, rather that each subsystem is doing what it expects and that the subsystem meets the requirements necessary for that subsystem.
- Provide a preliminary board design that includes all major components, showing appropriate layout and essential connections presented in the previous design review.
- Since you will not have created your board yet, it is assumed that the subsystems will be demonstrated using existing kit and development boards and appropriate breakout board.

### **Design Review 3:**

When: Week of March 27<sup>th</sup> to March 31<sup>st</sup>

Content: System Integration Test (SIT)

- Show the end to end functioning of your system. While it need not be in final form, you should demonstrate that all interfaces are working and essential functions of the system work.
- Final Board design, with complete BOM.

### **Update Meeting:**

When: Week of April 10<sup>th</sup>

### **Design Review 4:**

When: Week of April 24<sup>th</sup>

Content: Complete system Demonstration (SAT)

- Demonstrate working system on the final hardware.