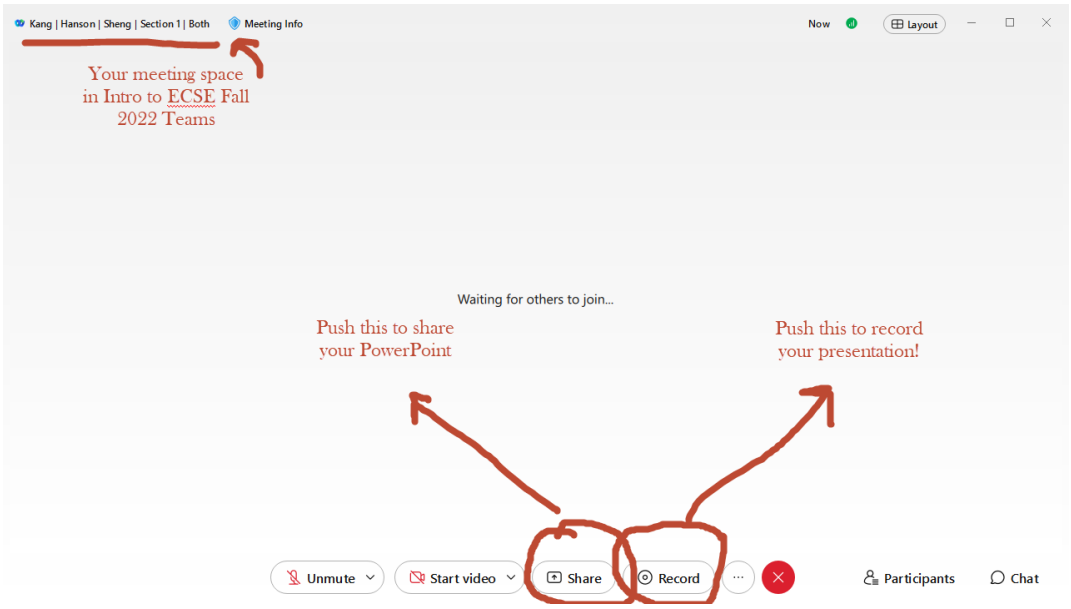
Presentation Contents and Grading Standards

If you'd like to make a video, you can make a quick PowerPoint presentation and address the list below. It is pretty easy to click the Meet button in your Lab space example

Name | Name | Name | Omega

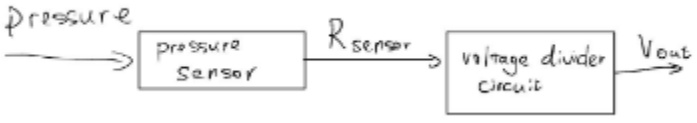
on the upper right-hand side. If you don't have your own lab space with your teammates, make one now!

To record a meeting click "Record" on the bottom. To share your screen, click "Share" below.



Your Omega Exploration Presentation should have the following contents. Please do these in the following order (don't start by showing us the breadboard and wires):

1. Title of Your Project
2. Goal of project and whether it is across multiple labs or just for the lab you are working on
3. High level block diagram of each function (see example below...don't forget input and output for each block!)



4. Mathematical Analysis (important calculations or assumptions)
    a. Did you figure out a sensor's detection range (data sheet) or assume it to be something (potentiometer)?
    b. Did you calculate the current or voltage you expect to set a reference or predict the correct function of a component?
    c. Did you calculate any other parameters that relate to the course to try to predict how your circuit works?
5. Functional Circuit Simulation (probe important points that you'll compare with mathematical analysis and your experiment)
6. Functional experimental measurements (using Personal Instrumentation board…probe and show ALICE, SCOPY, or WAVEFORM screen…Note: it is possible in future labs to do an experiment using equivalent MATLAB/Simulink outcomes for Lab03)
    a. If your overall circuit isn't working, be prepared to show ***how your individual functional blocks are working***. ***These relate to the concepts we want you to learn in class!*** I.e. the output of the sensor, then output of voltage divider, thee LED turning on…if each one works on their own that's great! If integration of each block is an issue try to troubleshoot and explore why! This is excellent to discuss! ***Showing a beautiful, perfectly working circuit with no simulation, no calculation, and no measurements, with NO connection to course concepts will earn you a VERY low score. We don't care if your circuit works, we care that you UNDERSTAND how your circuit works, connects to course concepts, and how it inspires you to explore beyond the course to future ECSE based concepts!***
    b. If you have an individual functional block that doesn't work, show how you attempted to troubleshoot it and speculate why it failed. (This thought process will help you iterate later!)
7. Discuss design choices that are related to your Proof of Concepts
    a. Did it make your idea more difficult to do?
    b. Did it cause you to rethink your original plan, in what way?
    c. Did you discover something you were expecting to discover by being forced to connect to course concepts? (Design limitations are an engineer's challenge! Always)
8. Discuss one or two ideas that you need to explore beyond the course to complete your full design plan?
    a. What are those concepts? Are there any words that you came across that you've never heard of before? (PWM, FFT, PID, state machine, etc.)
    b. What courses are they related to?
    c. Which, if any, of these that are OUTSIDE of the course content, would you attempt to learn on your own (enough to help your plan) during Intro to ECSE?
9. Discuss plans for next Lab (or after class)
10. Come up with at least ONE question for the TA, SA, or Professor that you found because you did an Omega Exploration.

Your presentation video should be ~5 minutes. 10 minutes is the maximum, 1 minute is way too short, 20 minutes is way too long.

Presentation Standards Based Assessment

Presentation Standards

1. **I can explain the goal of the project and its scope within the course. (Over just one lab or across all labs)**
2. **I can present a high-level block diagram that represents the functional blocks of each part of my demonstration.**
3. **I can show calculations and, if needed, reasonable assumptions that helped me predict the correct function of my circuit.**
4. **I can show my simulated circuit and show important probe points to compare to my mathematic predictions**
5. **I can demonstrate the course concept as a working functional block or working experimental outcome.**
6. **I can show important functional blocks that work as expected OR attempt to explain why it failed through troubleshooting.**
7. **I can discuss design choices directly related to concepts I'm learning in Intro to ECSE.**
8. **I can briefly mention or discuss new knowledge obtained, design ideas OR design choices or ideas that are beyond the content of Intro to ECSE.**
9. **I can discuss plans for the next lab.**
10. **I can articulate at least ONE question based on my experience doing the Omega Exploration.**