Requirements and schedule for the physical greenhouse system

We will add more functionality as the term progresses, but here are the expectations for getting the physical system into its basic, working form.

Function	Requirements	Component(s)	Implementation details	Schedule
Read both inside and outside temps	You must create and use an AD22100 class. Must use recommended circuit from datasheet.	AD22100	Outside sensor can go on your breadboard; inside sensor will be soldered to a protoboard	Working at start of lab on 3/22
	Inside sensor mounted on protoboard	Protoboard	Protoboard will be given in lab; use 3-wire cable to connect to bread board	In lab on 3/22
Provide heat	Heaters mounted securely to floor or sides	Brick heaters connected to relay; magnets; 24V supply	Run wires under side of greenhouse	Working at start of lab on 3/22
	Relay board mounted securely	Mounting platform	Board will be provided (ask to see them on Monday)	In lab on 3/22
Provide cool	Lid is opened when interior gets too hot	Servo, bike spoke	You'll 3d print cradle for servo and connector to lid	First prototype at start of lab on 3/22; Will can help with printers
Control	State machine that describes basic functionality	Arduino	Create a test that demonstrates that the control works (e.g., use your fingers to warm the temperature sensor, which should activate the heaters or servo).	Basic functionality by start of lab on 3/22 – you don't need to fully heat/cool your greenhouse, just show that the heaters turn on and the servo motor turns
	Set-point up/down buttons	Buttons	Use your button class and events	In lab on 3/22
	Arduino mounted on board	Mounting platform		In lab on 3/22
LCD screen	Display current indoor,	Mounting	See	In lab on 3/22; tutorial to follow

	outdoor, and set-point temperature	platform	https://www.sparkfun.com/products/9395 for QuickStart Guide and tutorials	