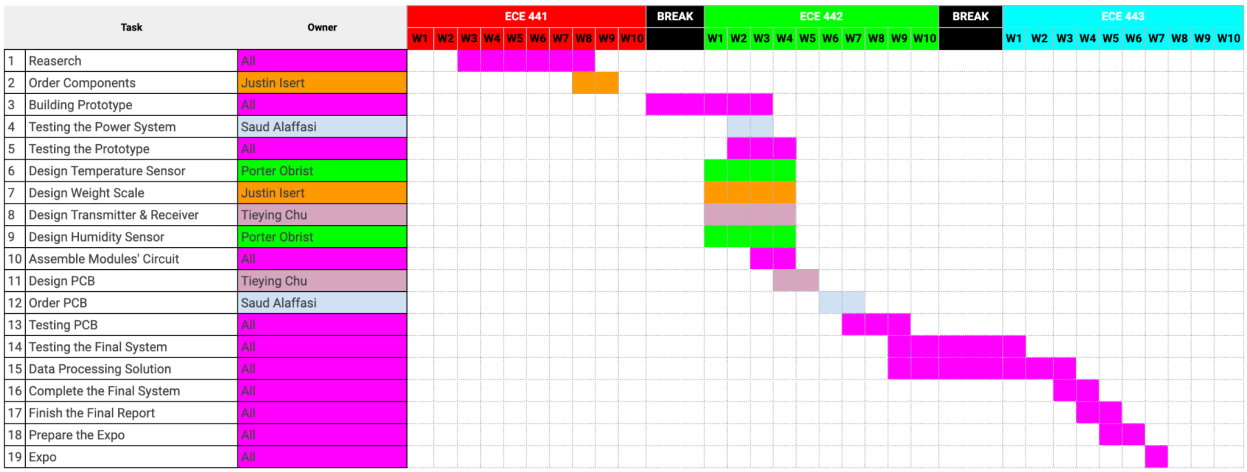
Our Bee Hive Monitoring System was developed to streamline the process of beekeeping, addressing the necessity for improved hive management. Traditional methods often lack precise and timely insights into hive conditions, which can lead to ineffective beekeeping practices. We aimed to change this scenario with our project by introducing a system for real-time, non-invasive monitoring of hive health and status, making beekeeping more efficient and manageable. As a Team, we approached this project systematically, employing iterative design principles and breaking down the project into several key phases. The first phase involved brainstorming and researching current industry practices and technology. Then came our development phase which was marked by active prototyping, testing, and refinement of our system based on collected feedback and data. Then in the final phase, we implemented our system, putting it all together, resulting in ongoing evaluation and revision to optimize the design.



	Task	Owner	ECE 441									BREAK	ECE 442										BREAK	ECE 443									
			W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10		W1	W2	W3	W4	W5	W6	W7	W8	W9	W10
1	Reaserch	All																														
2	Order Components	Justin Isert																														
3	Building Prototype	All																														
4	Testing the Power System	Saud Alaffasi																														
5	Testing the Prototype	All																														
6	Design Temperature Sensor	Porter Obrist																														
7	Design Weight Scale	Justin Isert																														
8	Design Transmitter & Receiver	Tieying Chu																														
9	Design Humidity Sensor	Porter Obrist																														
10	Assemble Modules' Circuit	All																														
11	Design PCB	Tieying Chu																														
12	Order PCB	Saud Alaffasi																														
13	Testing PCB	All																														
14	Testing the Final System	All																														
15	Data Processing Solution	All																														
16	Complete the Final System	All																														
17	Finish the Final Report	All																														
18	Prepare the Expo	All																														
19	Expo	All																														

Throughout this project, we learned invaluable lessons as a team. We discovered the importance of communication and division of roles based on our individual strengths, ensuring that each team member contributed effectively. We also understood the value of prototyping and testing, which led to continual improvements in our design. Critically, we learned that design is a dynamic process - the initial idea often evolves into something more nuanced as challenges are encountered and overcome. This project was not only an exercise in technical skill but also in teamwork, project management, and creative problem-solving.