MSE 495 Spring 2025
Weekly Progress Report

Progress Reports are graded on the (i) write-up of what has been accomplished and (ii) the amount of said progress on the overall project.

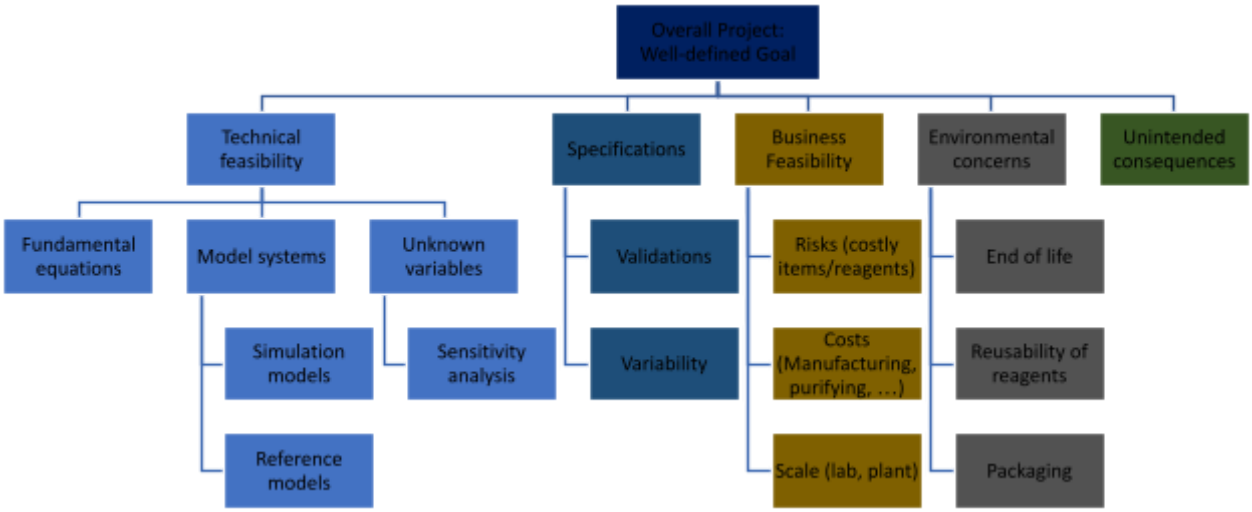
1. Group Number and Title: Group 11 – Sustainable Polymers

2. Week 12/16 and Date: 4/18/2025

Understand	**Synthesize**	**Ideate**	**Prototype**	**Implement**
Explore	Debrief	Brainstorm	Create	Support
Observe	Organize	Propose	Engage	Sustain
Empathize	Define	Plan	Evaluate	Evolve
Reflect	Interpret	Narrow Concepts	Iterate	Execute

3. Provide a brief list of activities that were done and their corresponding HCD space(s) and subspace(s) (add rows if necessary):

Activity	HCD space(s)	HCD subspace(s)
Presented poster draft	Synthesize, Implement	Interpret, Execute
Assigned Tasks for final portfolio	Implement	Execute



4. What branches/blocks were work focused on this week?

Technical feasibility - model systems (reference models)
Specifications - validations and variability

5. What was accomplished? (4-5 bullet points, include data/charts if applicable)

    - Presented our poster at the symposium to MatSE students, faculties, and external sponsors.
    - Was awarded the best poster at the MatSE award ceremony.
    - Assigned tasks and established deadlines for the final portfolio.

6. What challenges are still outstanding? (2-5 bullet points)
    - Fleshing out and conducting more research on environmental concerns, business feasibility and unintended consequences for final portfolio
    - Finishing the lean canvas document
    - Cleaning up the lab spaces

7. As you engaged in human-centered engineering design activities this week, do you think you became curious about any new content? If yes, how?

Yes, we have become curious about the potential implementation of our project. Through our experiments we have discovered that while our blend can be made into a fiber it lacks lots of mechanical properties and investigating how that might be mitigated is important to consider for implementation.

8. As you engaged in human-centered engineering design activities this week, do you think you made any new connections (e.g. connections between ideas, connections between people, etc.)? If yes, how?

    We have made connections between the results of characterization and business feasibility. For example, the low Tg of our polymer blend makes our product unfeasible for textile applications but finding that having a different PLA base can fix that shows that we can find ways to create better properties for our blend to make our product more commercially viable.

9. As you engaged in human-centered engineering design activities this week, do you think you created any value (e.g. identified a way to work together more efficiently, found a way to improve your idea or design, etc.)? If yes, how?

    We have created value by winning the best poster. We also have created value by considering how commercial textiles undergo chemical treatment and are looking into potentially discussing this in our portfolio as when considering implementation.

10. What feedback did you obtain from the instructor or TA last week that you addressed in your work this week?

    There are no more TA meetings.