ME500: Automation & Manufacturing Methods
Spring 2024 Project Description (Updated 01/15/2024)

The course project is a semester-long group undertaking proposed by each team of students at the beginning of the semester. The **goal** of each project must be clearly stated and *must primarily focus on functional materials synthesis and fabrication, automated manufacturing, or both.* Each team will have the opportunity to select a project from a list of available projects, or propose their own project that either advances the capabilities of the ADML or uses the ADML for a novel advanced manufacturing application. Proposed projects related to Masters or PhD thesis projects are also welcome, provided they satisfy the aforementioned requirements for the project goal. Each project must have **three specific aims**. The output of the aims *must be tangible, including physically fabricated products, physically tested automated manufacturing codes, or both.* The scope of the aims must be sized appropriately so that each team member can contribute equally to the project and so that the project can be finished within a semester. The three deliverables for the project are 1) An initial project proposal presentation, 2) Weekly project update presentations, and 3) A final project presentation and supporting documentation with specific details on how to replicate the tangible outputs of the project. The detailed instructions and the rubrics for project assignment are available on Blackboard.

1 Project Deliverables

The project is decomposed into three deliverables - rubrics will be provided for each deliverable:

1. **Project Proposal:** 10 minute presentations due in person in lecture on *Thursday, 2/15.* Presentation files due online by *Thursday 2/15 at 11:59 PM.*

2. **Weekly Project Updates:** 10 minute presentations due in person in lecture on:

   - *Thursday 3/7*
   - *Thursday 3/28*
   - *Thursday 4/4*
   - *Thursday 4/11*
   - *Thursday 4/18*
   - *Thursday 4/25*

   Corresponding presentation files for each update are due online by *11:59 PM* the same day.

3. **Final Project Presentation and Supporting Documentation:**

   - 10 minute presentations due in person in lecture on *Tuesday, 4/30.* Project presentation files (include ppt file and video files) due online by *Tuesday 4/30 at 11:59 pm.*

- All supporting files (including but not limited to: CAD, CAM, NC code, bill of materials, instructions, program code, raw data) that enables replication of the most recent versions of the tangible products of the project due online by *Tuesday 4/30 at 11:59 pm.*
- A single written document that describes all supporting files and how they can be integrated to replicate the most recent versions of the tangible products of the project due online by *Tuesday 4/30 at 11:59 pm.*

4. **Self and Peer Evaluations:** Due online by *Friday, 5/3 at 11:59 pm.*

2 Grade Breakdown

As outlined in the syllabus, the course project is worth 30% of your final grade. The following is the grade breakdown within the project.

1. Project Proposal: 25%
2. Weekly Project Updates (each weighted equally): 35%
3. Final Project Presentation and Supporting Documentation: 30%
4. Project Self and Peer Evaluations: 10%

3 Closing Remarks

The purpose of this project is for you to have fun, learn, and enjoy a hands on experience with functional materials and automation! Please feel free to ask for help anytime during your project if you need it. It's best to solve problems as early as possible.