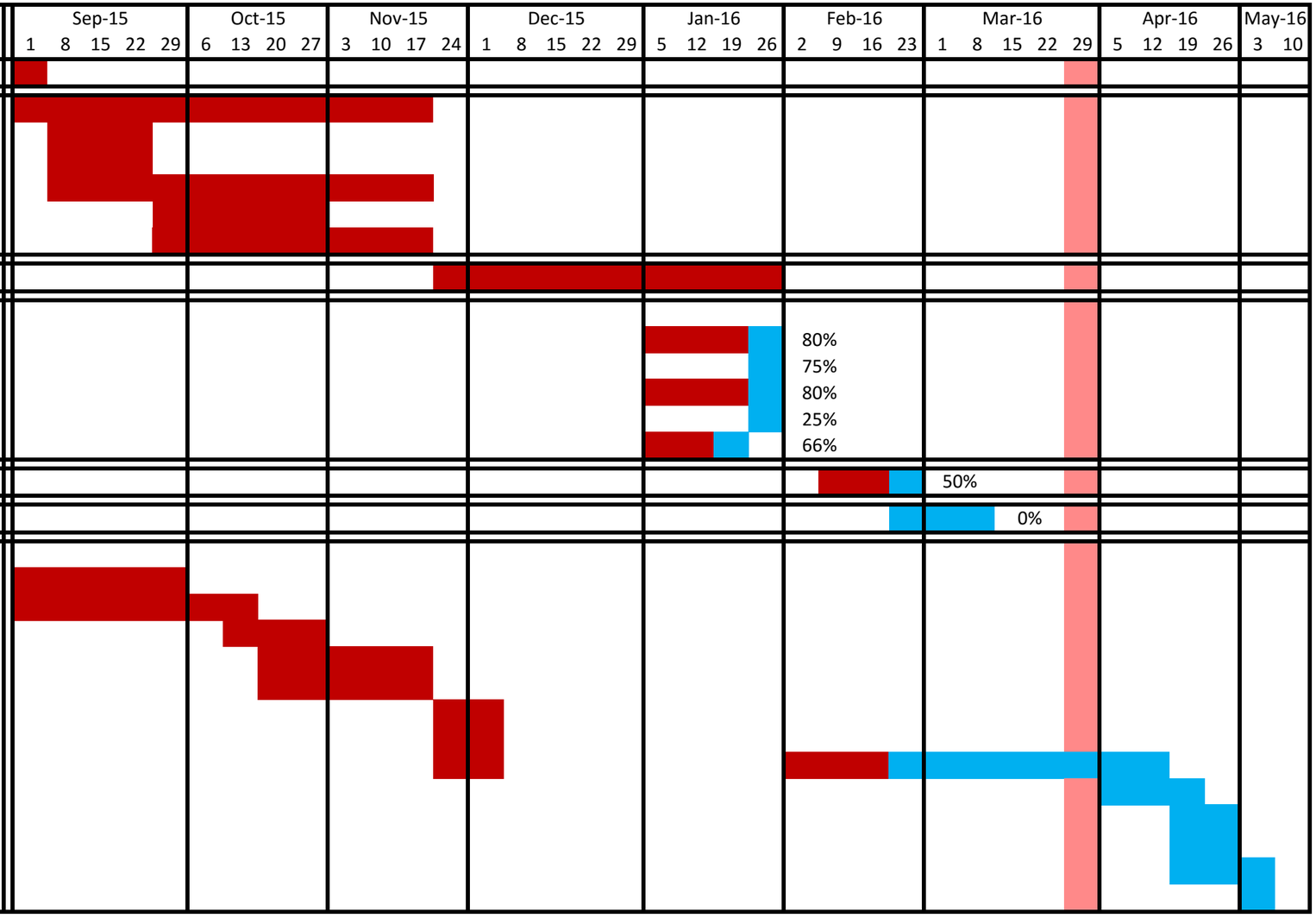
TASK NAME	RESPONSIBLE	Date
General System Design	All	September 4, 2015
Stator Design		November 17, 2015
Research Winding Types	Tim	September 22, 2015
Pole and Slot Pitch	Mason	September 22, 2015
Pole Depth	All	November 17, 2015
Slot/Teeth Ratio	All	October 27, 2015
Number of Coil Windings	All	November 17, 2015
Purchasing	All	November 30, 2015
Construction		February 2, 2016
Coil Windings	Mason and Tim	January 25, 2016
Stator Mount	Mason and Tim	February 8, 2016
Microcontroller Sytem	Tyler	February 8, 2016
VFD Programming	Tyler	February 8, 2016
Sensor Programming	Tyler	January 25, 2016
Implementation	All	February 9, 2016
Testing	All	March 7, 2016
Deliverables		
Project Proposal - Oral Presentation	All	October 1, 2015
Project Proposal - Written	All	October 15, 2015
Webpage Release	All	October 28, 2015
Fall Progress Presentation	All	November 19, 2015
Fall Performance Evaluation	All	November 19, 2015
Fall Performance Review	All	December 3, 2015
Design Review	All	March 1, 2016
Final Report Draft	All	April 12, 2016
Oral Presentation Preparation	All	April 19, 2016
Final Project Oral Presentation	All	April 21, 2016
Poster Presentation to IAB	All	April 29, 2016
Final Project Report	All	May 3, 2016
Project Website Verification	All	May 3, 2016



A false stator tooth was created by the group members to help with the coil creating process. The false stator tooth consists of a wooden piece that is the exact size of a single stator tooth from our stator core with two end pieces to help hold the coil on the wooden piece when wrapping. Each tooth on the stator is around 1.1"x1.25" and is 3.5" in length. To help with the coil winding process a brass sheet was formed around the wooden tooth. The brass sheet ensures that the coil windings can easily be slid off of the wooden tooth and onto the stator's tooth. Wire can then be wrapped onto the wooden tooth and the end pieces can be removed to pull the coil off of the wooden tooth and then can be placed onto the individual stator teeth.

The group is currently working on creating our coils for the stator teeth. It was determined, prior to wrapping, that each coil will need approximately 217 wraps. Originally the group had planned to have 5 layers of wraps on each coil, because 5 layers was determined to put us in the range of 217 wraps. Due to the precision of the lathe being implemented the group only needs 4 layers of wraps because the group can wrap the coils more precisely than previously theorized. The lathe used to wrap the individual coils provides a reading of how many rotations the lathe has actually made. Having the rotational information the group can then determine how many wraps were on the coil for each layer. 4 layers of wraps on a coil generates around 260 wraps per coil. This is more than was expected per coil and will make the creation of each coil easier and less time consuming. The original calculations for the number of wraps did not take into account the fact that the next layer will be able to slip into the creases between the two wraps of the previous layer.

Each coil takes around 2 hours to create because of how slowly the lathe turns, and requires at least two group members to wrap. One group member routes the wire onto the bobbin, while the other group member can operate the lathe. The process of creating the coils has been the most strenuous and time consuming of the entire project thus far. The group has estimated it will take around 24 hours to create all 12 coils for our project if we stick with the same coiling method that we are currently using.

Another process that the group has been working to tackle, in-between wrapping coils, is the mounting solution for the stator core and the simulated linear track. Angle irons have been purchased and are ready to be cut and drilled. The angle irons will provide a mounting solution to the stator core underneath the simulated linear track. The simulated linear track has been modified to sit up higher on the original mounting bracket so that the stator core can be mounted underneath without any interference of the moving parts.