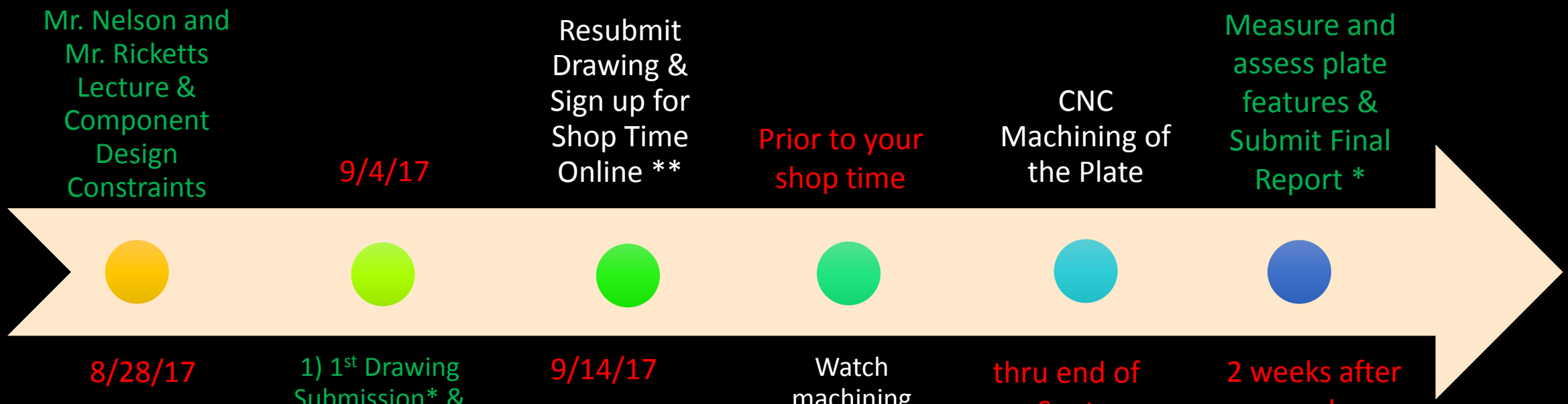
CNC Machining Project Details

28 August 2018

MEEG 301 CNC Assignment Timeline



* = deliverables

** = deliverable plus bonus (bonus points for early completion of machining)

Machine Shop Videos

- There is a playlist of the Machine Shop Tutorials that were created for this assignment.
  - https://udcapture.udel.edu/misc/engr/engr_shop/
  - Five videos total: CNC Mill Basics 1 thru 5
  - The total runtime is about 30 minutes.

- Please watch the series ***before*** you come into the machine shop to make your part. This will help ensure that you already have a brief introduction on how to use the CNC mill and its functions.

- If you have any questions or cannot view the videos please contact jglancey@udel.edu.

CNC Project Grading

- Portion of Course Grade = 15%
- CNC Project Grade Breakdown
  - Complete drawing to make the plate = 25 pts
  - Detailed description of machine process = 15 pts
  - Details assessment of part quality = 25 pts
  - Proposed design changes to reduce cost = 10 pts
  - Professionalism & Communication = 25 pts
    - On-time in the shop & follow all rules
    - Advance notice for unexpected schedule changes
    - Machine and shop area cleanup
    - Screenshot of off-line Prototrak software use
    - Professional interaction when working with Scott Jeff, and the TA's (and Professors!)
    - Report quality

Machined Part Assessment

- Should check that your part (plate) is within tolerances specified on the drawing
- Features to check on your part include but are not limited to:
  - Inside and outside corner radii or fillets
  - Chamfer sizes
  - Depths of cut
  - Locations of drilled or milled holes
  - Pocket sizes and locations
  - And more …
- Submit part assessment, along with proposed design changes to reduce cost, as part of your final report.

A Comment on Machine Programming

- For this first assignment, you will use *Conversational Programming (i.e. programming at the CNC machine)* to develop the code executed by the mill to command the movement of the part relative to the tool.
- In November, there will be additional assignments to introduce line programming of CNC machines, developing software long-hand and using Computer-Aided-Manufacturing (CAM) software.

Questions or Comments?