**Shop Fabrication of a Part**

1. Create a sketch / hand drawing
2. Review design and feasibility with one or more teammates
   * This review may be repeated before moving on (possible return to step #1)
3. Review design and feasibility with PE
   * This review may be repeated before moving on (possible return to step #1)
   * If the mfg. process is **simple** - move on to step #4
   * If the mfg. process is **complex** - PE may direct you to review with Sam Chiappone
4. Create CAD solid models (use only NX or SolidWorks)
   * One model file for each individual part
   * Assembly file if appropriate
5. Create CAD 2D Drawings (w/ dimensions, using standard RPI B-size template)
   * One for each individual part
   * Assembly and exploded view if appropriate
6. Review material needs with PE
   * If material is common - move on to step #7
   * If material is special - PE may direct you to:
     + Research procurement options
       - Follow purchasing process for individual material order
     + Change design if too special (return to step #1 or #3)
7. Print out CAD Drawings (A-size - 8.5 x 11”)
8. Review CAD Drawings with PE
   * This review may be repeated before moving on (possible return to step #5)
9. Create Document Package
   * Design Lab Requisition Form with **SIGNED** PE approval
   * Paper copy of CAD drawings
   * Flash Drive - available in PE office (JEC 3103)
     + .DXF files of part drawings – 1:1 scale
     + CAD drawing and model files
       - NX – .prt file AND parasolid file (\*.x\_t)
       - SolidWorks - .sldprt & .slddrw
10. Deliver Document Package to Sam Chiappone, or place in bin outside JEC 3100A
11. Wait (anywhere from 2 hours to 3 week depending on shop queue)
    * If there is a problem - Sam or PE will contact you
    * You will be notified via email when job is complete