

## Design Report 1 TUL Retractable Pen EML 4501 – Spring 2010

Assigned: Jan 11, 2010  
Due at the beginning of class: Feb 5, 2010

As discussed in class, the requirements for Design Report 1 are as follows:

- The project is to be completed individually
- Describe the functional requirements of pen
- Describe how this pen and its components work to meet the functional requirements
- Discuss the positive and negative attributes of this particular design
- Create a complete set of dimensioned and toleranced detail (2D part) drawings
  - Closure equations should be used to determine the tolerances and some of the nominal dimensions specified on the parts drawings.
  - Each closure equation should:
    - Have reason why you are using the particular closure equation
    - Clearly show what was gained from the closure equation
    - Have a sketch that clearly shows what you are solving for. This includes labeled vectors.
    - Be completely solved
    - Handwritten, solved closure equations may be included in the appendix
- Create a labeled assembly drawing
- Create a labeled section view drawing
- Describe what the pen components are made of and why that particular material is used
- Describe how the pen is assembled

Your appendix will most likely include other sections than just the closure equations. Often an appendix for this type of report will include charts and references used for design purposes, and specs on the products readily available, etc. Some choose to put the drawing package in the appendix, which is perfectly acceptable. It's up to you how you organize the report and present the material.

Regarding closure equations: you may include a sample equation in the body of the report and refer to the appendix for a complete list, or you make merely make a reference in the body of your report to the appendix.