Welcome to MAE 205, Visualization and Graphics. During the semester we will develop your basic drafting skills using pencil and paper, AutoCAD, as well as solid modeling with PTC Creo. While this course is not intended to make you an expert designer, modeler, or draftsman, it will provide you a firm foundation in engineering graphical communication via manual drawing and CAD fundamentals.

We will spend roughly 1/3 of the course doing pencil-and-paper drawing and drafting practices, 1/3 learning about AutoCAD 2-D, and 1/3 learning about solid modeling using Creo. This will require the purchase of a book (available in the university bookstore) and some basic drafting/drawing tools, which may or may not be available in the university bookstore. These items should be available at any drafting/art supply store. Michael’s, Office Depot, Staples, Walmart, etc. are places to find these items. Online stores include DraftingSteals.com, CheapJoes.com, among others.

Below is a list of the manual drawing tools that will be needed for the first part of the course. Bring these tools and the textbook with you to the next class.

Please have all materials ready for the 2nd week class meeting on Monday.

- 2 mechanical pencils for 0.5 to 0.7mm lead. I recommend 2H lead for light lines and HB lead for dark lines. Ensure that you can tell which one is which.
- Eraser (e.g., Stadtler. Not pink pearl)
- Eraser shield...metal, if possible
- Triangles (one 30-60-90, one 45-45-90). Hypotenuse length should be at least 6-inches, 9-inches is better. The types with notched edges for inking will be ok, but are not necessary, as we will not use ink, only pencil. I recommend against the beveled edges, as this makes sliding one triangle on another difficult.
- Engineer’s scale. I recommend the triangular variety, not the flat variety, although either will do.
- Compass (a good quality one)
- Drafting tape or Blue painters masking tape
- *Isometric ellipse template (not a generic ellipse template)
  * Can be shared by several folks.

Highly recommended
- Circle template. Maximum 1-inch diameter should be sufficient.
- 6-inch steel scale