

## Final Design Project - Evaluation – Tuesday 12/05/17 Name\_\_\_\_\_

### Final Drawing Section - 50 points total

**Final Project Drawings, 5 drawings plus the title block – 50 points total (10pts each, 10pts for the Title Block, points off for a missing 5<sup>th</sup> drawing)**

Generalized grading criteria for all drawings include:

- Opportunity for extra credit for going beyond what is asked for in this section, up to 10%.
- Up to 10 points off for a missing or incomplete 3rd part drawing.
- 20 points off for printing during or after the presentations (print before class).
- Drawings include, in order:
  - Cover Sheet with a photo real image(s) of your assembly along with project name and designer and similar information.
    - Printed in color
  - Exploded assembly drawing with a Bill of Materials, Balloons and Exploded Line Sketches
    - Printed in grey scale
  - Part drawings (3) of parts of your choice (choose the more complex ones, two will be graded)
    - Include 2D and GD&T annotations over various sheets
    - Printed in grey scale
  - Other drawings will be considered for:
    - Special projects that lack an adequate amount of parts, and sheet metal projects
    - Extra credit but only if it adds to the information attempting to be communicated or helps better explain how your project can be fabricated.
  - Every drawing has Title Block items as described throughout the quarter, all CAPITALS, logo (unique with company information), part description (Title), file name, company name, units of measure, dimensioning standard, confidentiality statement (filled in with your company name), material, drawn by (your initials) and date, checked by and date, etc...
- Printed per the printing instruction on the Student Resources section on the class website per the requirements below:
  - A drawing set, on ANSI B sized paper, printed full size to scale (measure this), in grey scale (not color except for the Cover Sheet), ANSI dimensioning standard, appropriate units and precision, views laid out with appropriate spacing and symmetry, proper and readable annotations with an engineering fold and in order.

Specific Grading Criteria for your final project drawings:

Cover Sheet drawing – Print in color - 10 points total

- Image(s) of the assembly or an important part of the assembly (will check the assembly file for the items below) (1pt)
- Material or applied appearance on parts in assembly (1pt), Scene (1pts), add a spot or point light, lights on - must be visible (1pt), Camera - 16:9 aspect ratio (1pt)
- Object fills image (1pt), Object centered in image (1pt)
- Project name, designer, company name (1pt)
- None or N/A for the Material, Weight, Finish and Scales sections in the Title Block (1pt)
- Errors and Extras

Exploded assembly drawing graded as follows – Print in grey scale - 10 points total

- Create new isometric type view with a different orientation (if needed) to make it more readable in a drawing (1pt), organized with edge and object offsets, HLR, proper scale so that it fits but not too crowded (1pt)
- Bill of Materials, on the Sheet Notes layer, organized and neat, consistent row height, rows in logical order, filled in, CAPITALS (1pt), numbers centered - text left justify (1pt), Columns include – and in order: Item Number, Description, Material, Part Number and Quantity categories, complete and filled (1pt)
- Balloons, circular split line for all parts, item number/quantity (1pt), organized, easy to read, magnetic line, no overlapping lines, Sheet Notes layer (2pts)
- Explode Line Sketches, complete, neat, organized, no stacked lines, lots of clearance (2pts)
- Errors and Extras

Part drawings graded as follows, every sheet contains the following – Print in grey scale - 10 points each (2) – 20 points total

- ANSI dimensioning standard, units, appropriate precision, appropriate sheet scale (1pt), verify scale by measuring a dimension (1pt)
- 3 standard views with at least 2 Display Styles (1pt)
- Isometric view with Shaded or SWE Display Styles (1pt)
- 3 extra views – may be over various sheets - choosing from the Detail View, Projected View, Section View, Crop View or others, has to add to the information attempting to be demonstrated with your project (1pt)
- Dimensions – Dimension layer, complete, organized, extension line offsets - 10 minimum (1pt), 4 different 2D tolerances, over 3 sheets on the appropriate features on your parts (1pt)
- At least 3 Datums and 6 Feature Control Frames, 4 unique, over the 3 sheets, on the appropriate toleranced dimensions for the appropriate features or surfaces referring to the datums (1pt), need to make sense, use your guidebook (1pt)
- Note section - Sheet Notes layer with fabrication details and Mass Properties (1pt)
- Views and annotations laid out with appropriate spacing and symmetry (1pt)
- View titles - Sheet Notes layer, CAPITALS, centered below and underlined (1pt)
- Errors and Extras

Third part drawing – Up to 10 points off if the third part drawing is incomplete or missing.

Drawing Template - Title Block Items and Drawing Layout (random part drawing selected) 10 points total.

- All CAPITALS, Engineering Fold (1pt)
- Logo - effort, unique, (1pt) fills the box, company information including: name, address, phone number, web and email address (1pt)
- Company name section (1pt)
- Part *Description* (Title) section (1pt) file name section (fits) (1pt)
- Material, Weight, Units of measure/tolerance section (1pt)
- Drawn by (initials) and Draw date - today's date (1pt)
- Interpret Geometric Tolerancing section (1pt)
- Dimensioning standard, Confidentiality statement section (1pt)
- Errors and Extras