# CHECKSHEET FOR PART MINI-PROJECT (Cover page 1 of 2)

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NAME:

**Pre-CAD Plan**

\_\_\_ Ordered/bulleted list of feature creation steps (2 pts)

\_\_\_ Identify primary & secondary features

­­­\_\_\_ Explain rationale for location & orientation of origin within part

\_\_\_ Clear identification of 2D profile(s) associated with each feature

\_\_\_ Identify (locate/calculate) key size dimensions related with each feature

\_\_\_ List of ALL assumptions

**Above and Beyond (Exemplary)**

/9

\_\_\_ Exceptional organization and neatness

\_\_\_ Analysis of steps/features that could prove difficult

\_\_\_ Other:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Process Documentation**

\_\_\_ Completed Summary tab (w/ tab overlaid on model)

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\_\_\_ Completed Custom tab (w/ tab overlaid on model)

\_\_\_ Illustration of key modeling steps (2 pts)

\_\_\_ Explanation (clear and concise captions) of key modeling steps (2 pts)

\_\_\_ Rationale for Usage of Sketch Tools (which tools used and why)

\_\_\_ Expanded and Annotated (i.e., renamed) Design Tree

\_\_\_ Compelling Lessons Learned (about this part as well as about SolidWorks)

**Above and Beyond (Exemplary)**

\_\_\_ Exceptional organization and neatness

\_\_\_ Thoughtful use of Reference or Construction Geometry to Simplify Modeling

\_\_\_ Other:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Finished Products** (based on finished model and drawing)

\_\_\_ Fully-Defined Sketches

/10

\_\_\_ Correct/Accurate Model screenshot (with use of at least 1 loft)

\_\_\_ Attractive Visualization of Final Part

\_\_\_ Screenshot of Mass & Center of Mass Properties

\_\_\_ Quality Engineering Drawings on Multiple Sheets

\_\_\_ Engineering Drawings use dynamically-linked part properties from the part file to fill out ME template items in the drawing (title block, BOM table, and Revisions table)

\_\_\_ Complete/Non-redundant dimension scheme (2 pts)

**Above and Beyond (Exemplary)**

\_\_\_ Effective use of section view, detail view, or other view to assist drawing clarity

Deductions on PMP

 \_\_\_ No cover page (*-2*)

 \_\_\_ Not a .doc/.docx (*-2*)

 \_\_\_ No .sldprt file upload (*-2*)

 \_\_\_ Incorrect filename (*-2*)

 Use: “*MP1\_Your Name”*

\_\_\_ Effective/clean dimension scheme

\_\_\_ Other:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# **PART MINI-PROJECT SELF ASSESSMENT** (Cover page 2 of 2)

**NAME:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **SECTION:** \_\_\_\_\_\_\_\_ **DATE:** \_\_\_\_\_\_\_\_\_\_\_\_\_

1. How many total hours did you spend on the part mini-project, including class time? How many in planning? How many in modeling? How many in documentation?

Planning \_\_\_\_\_\_\_\_\_\_

Modeling \_\_\_\_\_\_\_\_\_\_

Documenting \_\_\_\_\_\_\_\_\_\_ Total \_\_\_\_\_\_\_\_\_\_

1. Using the ME 301 grading rubric (1-5), analyze your performance in the following:

*1 - incomplete, major deficiencies* 4 - *complete, meets expectations
2 - complete, major deficiencies* 5 - *exemplary, exceeds expectations*

*3 - complete, some deficiencies*

|  |  |  |
| --- | --- | --- |
| **Project Component** | **Self Rating** | **Rationale** |
| **Pre-CAD Plan*** Order of Feature Implementation
* Identify Primary & Secondary Features
* Rationale for Location/Orientation of Origin
* Clear identification of 2D profile(s)
* Locate/Calculate Needed Dimensions
* Keep track of ALL Assumptions
 |  |  |
| **Process Documentation*** Summary Tab Overlaid on Model
* Custom Tab Overlaid on Model
* Illustration of key Modeling Steps
* Explanation of key Modeling Steps
* Rationale for usage of sketch tools
* Expanded and Annotated Design Tree
* Lessons/Discoveries (about this part as well as about SolidWorks)
 |  |  |
| **Finished Products*** Fully-Defined Sketches
* Correct/Accurate Model
* Attractive Visualization of Final Part
* Mass & Center of Mass Properties shown
* Quality Engineering Drawing(s) on Multiple Sheets
* Dynamically-linked Engineering Drawings
* Complete/Non-redundant dimensioning
 |  |  |

# PART MINI-PROJECT SCHEDULE

**Day 14 - Kick-Off (TLC 222)**

1. Part Mini Project introduction and assignment review.
2. Analyze legacy drawing and ask questions.
3. Pre-CAD: specify planes, origin, axes, reference geometry, and modeling approach. (homework)
4. Begin modeling part. (homework)
5. Log notes/assumptions you make about your part. (homework)
6. Inventory additional consulting questions you would like answered. (homework)

**Days 15 & 16 - Computer Lab Consulting (JEB 331)**

1. Bring hard copy and electronic documents/files to class.
2. Share modeling/drawing rationale and progress to date.
3. Actively participate in individual/group consultations and problem solving.
4. Finish SW model and mass/center-of-mass calculations. (homework)
5. Finish SW drawing(s) w/dimensions and annotations. (homework)
6. Have someone check your drawing and sign off in the drawing revision table. (homework)
7. Prepare a complete documentation package. (homework)
8. pre-CAD plan
9. process documentation
10. finished products

**Day 17 - Submit Entire Package by midnight on October 17th.**

# Pre-CAD Plan (optionally include scan from marked-up 11x17 and/or any of the following headings not already addressed in your scan)

|  |
| --- |
|  |

# Pre-CAD Plan (cont’d) *(delete unneeded headings)*

## Ordered/bulleted list of feature creation steps (2 pts)

## Identify primary & secondary features

## ­­­Explain rationale for location & orientation of origin within part

## Clear identification of 2D sketch geometry associated with each feature

## Identify (locate/calculate) key size dimensions related with each feature

## List of ALL assumptions

## (Above and Beyond) Analysis of steps/features that could prove difficult

# Process Documentation

## Completed Summary tab (w/ tab overlaid on model)

## Completed Custom tab (w/ tab overlaid on model)

## Illustrations and Explanations (clear and concise captions) of key modeling steps

## Rationale for Usage of Sketch Tools (which tools used and why)

## Expanded and Annotated (i.e., renamed) Design Tree

## Compelling Lessons Learned (about this part as well as about SolidWorks)

## (Above and Beyond) Thoughtful use of Reference or Construction Geometry to Simplify Modeling

# Finished Products (based on finished model and drawing)

## Fully-Defined Sketches

## Correct/Accurate Model screenshot (with use of at least 1 loft)

## Attractive Visualization of Final Part

## Screenshot of Mass & Center of Mass Properties

## Quality Engineering Drawings on Multiple Sheets (see checksheet for other important grading items)