Laboratory #5b
Design Modeling Using UG NX6

Feb. 26 – Mar 5, 2009

Objectives:

Get familiar with

- Unigraphics NX 6 Users' Interface: *Menus* and *Windows*
- Generation of User Defined Feature via 2D Sketching
- Picking, Placing and Re-definition of Features
- Generation of a 3D Feature-based Model
- Engineering Drawing Generation
  - Viewport Generation
  - Drawing Configuration Setup
  - Dimensioning

Instructions:

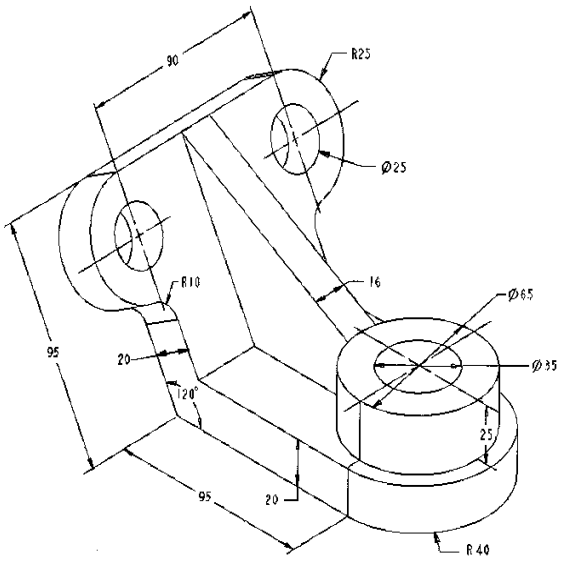
Part I – Warm up

1. Review of the lecture notes on a overview of UG NX 6 features and the tutorials posted on the course web:
   - NX CAST 6 - A Comprehensive NX CAST 6 Tutorial
   - NX5 for Engineering Design - A Complete Tutorial (M. C. Leu and A. Joshi, Missouri Univ of Sci. & Tech.)
   - Parametric Modeling with UGS NX 6 Book (by Randy H. Shih, from SDC)
     - Sample Chapter 2 - Parametric Modeling Fundamentals
   - NX6 Modeling Tutorial by John K. Layer (2008-8-26)
   - UGS NX Drafting Tutorial (Michigan Tech Univ)
2. Practice UG NX 6 sketching and 3D feature-based modeling functions and create the part model.

Part II – Model Generation

The subject of model is flexible with two alternatives:

1. Any mechanical part with reasonably complex geometry (more complex than the part given in II.2 or Lab 1).
2. The same mechanical part modeling in Lab 1, as shown in the following figure.



Part III – Drawing Generation

1. Review the drawing generation related tutorials.
2. Practice drawing functions following the given procedures.
3. Create a drawing of the part with top view, front view, right view, and isometric view.
4. Add necessary auxiliary lines and specify the dimensions of the component.
5. Draw the title box and put in drawing name, your names and student IDs.
6. Try to specify tolerances and test different dimension and tolerance formats.

Part V – Reporting

1. Write a lab report that includes
   1) A brief line by line description of how the part model and drawing are created
   2) Images of the 3D part model and the Engineering Drawing
   3) A summary on the differences between Pro/E and UG NX from your experience.
2. Submit the lab report by emailing the following documents to: mech410@me.uvic.ca in *MS Word* named as: LastName1_LastName2 *(.doc)*

* LastName1_LastName2 – last names of the two lab partners.