

# CUSTOM ADVANCED

## Part Design

- \* Part Breakdown  
Where to start, need sketches or profiles? Construction geometry?  
Which features to model first?
- \* Profile/Sketch  
2D designs that will improve your use of Intellisketch. Tips to faster and more reliable sketching. You'll learn to build predictable and reliable profiles that won't blow up!
- \* Optimize Design  
What features to draw? Which to model? Learn to model the part, not draw it out. How detailed should profiles be? Learn to combine treatment features to reduce file overhead. Model intermediate to difficult parts – SMART PARTS
- \* Part Design  
Machined, Plastic (process for plastics design), cast and Sheet Metal Parts
- \* Use variables to control your design by table driven input
- \* Family of Parts  
Create a group of parts that are similar, but not identical, automatically.
- \* Adjustable parts – using variables to adjust your parts dynamically

## Assembly

- Detailed review and exercises for assembling parts and creating assemblies from the "bottom up". Ensure you know the methods, short-cuts and tools for modifying and restructuring/changing your assemblies.
- \* Assembly Methods and Relationships  
Interface, methods (bottom-up / top-down), applying relationships
- \* Additional Relationships  
All relationships w/ Rapid part placement, using ref planes and patterns
- \* Editing Assemblies  
Checking tools, interference checks, dynamic movement, editing relationships and models, controlling updates, move and replace parts

- \* Designing in the Assembly
  - Bottom up method, top down design, both methods combined,
- \* Part/part Associativity, linking and management
- \* Assembly Features – benefits, when to use them
- \* EXPLODE – RENDER - ANIMATE
- \* Family of Assemblies/ Alternate Position Assemblies, changing assembly component order, adjustable assemblies
- \* Adjustable assemblies – identical sub-assy files with components in different positions
- \* Weldments
  - Learn to take several parts and make a "weldment"
- \* Structural components – process and workflow
- \* Standard Parts and Fasteners – setup, use of and storage

## Drafting

Use of tools and viewing options as they pertain to parts and assemblies. Use of Draft sheets is ongoing through class labs. All aspects of draft are open for questions, but labs are focused on newer tools in the draft environment.

- 2D to 3D design workflow
- quicksheets
- view types- tools for faster display and response on large assemblies
- 3D sections, view styles and shortcuts
- Viewing tools: modify the look and content of the views w/o leaving the draft file

Process sheets: using the ERA assembly environment to document the actual assembly process/instructions