DET2110 - Advanced Parametric Modeling

Credits:	4 (2/2/0)
Description:	This course covers advanced part modeling, assembly modeling, sheet metal model and pattern creation, and generation of presentation and exploded assembly files in the latest versions of various parametric modeling software.
Prerequisites:	• DET1106 • DET1210
Corequisites:	• DET2140
Pre/Corequisites*:	
Competencies:	1. Analyze top down, bottom up, and middle out assembly configurations. 2. Utilize advanced part modeling tools to create open, closed, multi-profile part, and assembly geometry. 3. Correctly apply and analyze functions of assembly constraints. 4. Analyze assembly and sub-assembly degrees of freedom to ensure proper interaction between part and sub-assembly designs. 5. Create exploded assembly and sub-assembly layouts to properly identify parts. 6. Apply motion rules and actions to exploded assemblies and sub-assemblies to demonstrate proper part fitment and alignment. 7. Manipulate sheet metal file standards and default material settings to accurately create sheet metal parts of varying thickness. 8. Utilize appropriate sheet metal tools to create faces, flanges, hems, rolls and contoured sheet metal features. 9. Generate flat pattern models of folded sheet metal parts. 10. Create drawing layouts to accurately define assemblies and sub-assemblies in a bill of materials. 11. Generate and insert sheet metal bend lines and tables to fully annotate flat pattern sheet metal parts. 12. Generate cohesive and fully defined sheet sets for parts, sub-assemblies and assemblies using model-derived views and appropriate annotation techniques.
MnTC goal areas:	None

**Can be taking as a Prerequisite or Corequisite.*

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