

**NorthWest Arkansas Community College
Business & Computer Information Division**

DRFT 2553 – Parametric Modeling in Solidworks (S)

Catalog Description:

This course provides students with the skills they need to create, edit, and document part and assembly models of moderate complexity using Solidworks software. The focus of the course will be to determine the best approach for the parametric design of individual parts and assemblies. Topics include the commands needed to conceptually sketch a part through the creation of a solid model, assembly design, and 2D drawing production.

Prerequisites:

DRFT 1234, DRFT 2154, or consent of instructor.

Credit hours/Contact Hours/Load hours:

3/3/3

Target Audience/Transferability:

This course is required for students pursuing an AAS degree in CAD with the Mechanical Design option and is non-transferable

Student Learning Outcomes:

Students will:

- Create fully constrained sketches for 3D models
- Develop 3D solid models from sketches using all the tools available in Solidworks
- Create solid models using advanced tools to sweep, loft, coil, shell, etc.
- Apply features to 3D parts as needed
- Create top-down and a bottom-up assemblies of 3D solid parts using the appropriate constraints
- Develop a 2D drawing with the correct views and annotation of a 3D solid part
- Develop a 2D drawing with the BOM and correct annotation of an assembly part
- Manage the completion of a project individually and as part of a team

Topics:

- The Solidworks user interface
- Creating 2D sketches
- Constraining and dimensioning sketches
- Creating 3D parts from sketches
- Editing and adding 3D features to parts
- Resolving model failures
- Placing and constraining parts in assemblies
- Assembly modeling tools
- Creating drawings and views
- Annotating drawings

Forms of Assessment:

- Individual design projects
- Group design project
- Portfolio of best work