CCCS CONNECT

Common Course Numbering System

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Searching Current Courses For Spring 2016

Course:	**CAD 259**
Title:	**Advanced Solidworks**
Long Title:	**Advanced Solidworks**
Course Description:	**This course focuses on the advanced applications of the parametric software Solidworks. Includes management of design data, advanced assembly and analaysis of model creations and constraints, documetation of bill of materials and parts lists, rendering and animation and testing a model assembly.**
Min Credit:	**3**
Max Credit:	

Course Notes:	**Entered new course 11/13/08 s@**
Origin Notes:	**FRCC**

STANDARD COMPETENCIES:

I.   Creating advanced assemblies and exploded views.

II.   Formatting advanced drawing options and sheet setup.

III.   Introducing sheet metal materials and advanced modeling techniques used to create   intricate models.

IV.   Documenting parts and assemblies-Bill of Materials-Parts Lists.

V.   Using animation and simulation with advanced models.

VI.   Create rendered models and applying cameras for rendering purposes.

VII.   Dynamically test a model assembly.

TOPICAL OUTLINE:

I.   Exploded views

        A.   Creating exploded view drawing of an assembly

        B.   Add balloons to assemblies

                1.   Numbering assembly components for BOM

II.   Assembly drawings

        A.   Generating individual component drawings

        B.   Labeling components

        C.   Inserting Isometric view

        D.   Detailing exploded views

        E.   Modifying components through drawings

                1.   Maintaining external references to other documents

III.   Advanced assembly techniques

    A.   Creating/applying advanced components

    B.   Replacing components

    C.   Editing configuration mates

    D.   Creating/Utilizing smart components

        1.   Auto size

            a.   Diameter

            b.   Concentric mate references

IV.   Advanced drawing options

    A.   Add new sheet to the document

    B.   Edit sheet format

    C.   Link annotations to sheet format

        1.   Specify material

        2.   Update drawing number

        3.   Changing part name

V.   Tables

    A.   Generate a table

    B.   Bill of Materials

        1.   Creating Excel spreadsheet BOM

        2.   Inserting model graphics into BOM

    C.   Revision table

VI.   Introduction to sheet metal

    A.   Sketching for flat pattern

        1.   Choosing bend radii

    B.   Applying bends to flat patterns

    C.   Applying corner cut-outs before bend

    D.   Adding flanges to sheet metal parts

    E.   Hole wizard in sheet metal components

        1.   Selecting correct surface after bending

VII.   Managing Solidworks documents

    A.   Converting files from other formats

    B.   Exporting files for production

        1.   Sending surface models

        2.   Converting to parasolid models

VIII. Create rendered images

        1.   Render a part

        2.   Render an assembly

        3.   Constrain the assembly to the XZ plane.

    A.   Animate constraints

          1.   Animate a model.

          2.   Create an animation file.

    B.   Animate a camera

          1.   Assign the surface styles.

          2.   Use the action editor.

IX.   Using Dynamic Simulation

    A.   Add a joint.

    B.   Convert an existing constraint.

    C.   Insert a spring.

    D.   Insert a revolution joint.

    E.   Insert a contact joint.

    F.   Drive the camshaft.

    G.   View simulation results

Course Offered At:

Front Range Community College FRCC
Pikes Peak Community College   PPCC
RELEASE: 8.5.3