



COURSE OUTLINE

CAD401

Prepared: Howard Gray Approved: Corey Meunier

Course Code: Title	CAD401: ADVANCED COMPUTER AIDED DESIGN
Program Number: Name	4039: MECH. ENG. TN-MANUFA
Department:	MECHANICAL TECHNIQUES PS
Semester/Term:	18W
Course Description:	The students will learn modern computer aided design using some of the various programs available that are used in industry today. This course will build on the students knowledge and enable them to produce workable CAD drawings ready for industry. The technician and tradesperson is required to design and understand mechanical parts and assemblies. This course will instruct the student on proper 3D solid modeling techniques as well as how to modify and work with models to produce prints.
Total Credits:	2
Hours/Week:	2
Total Hours:	30
Prerequisites:	CAD225
Course Evaluation:	Passing Grade: 50%, D
Other Course Evaluation & Assessment Requirements:	<p>Grade Definition Grade Point Equivalent A+ 90 - 100% 4.00 A 80 - 89% B 70 - 79% 3.00 C 60 - 69% 2.00 D 50 - 59% 1.00 F (Fail) 49% and below 0.00</p> <p>CR (Credit) Credit for diploma requirements has been awarded. S Satisfactory achievement in field /clinical placement or non-graded subject area. U Unsatisfactory achievement in field/clinical placement or non-graded subject area. X A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course. NR Grade not reported to Registrar's office. W Student has withdrawn from the course without academic penalty.</p>

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Assignments	70%
Final Exam	30%

Books and Required Resources:

Blueprint Reading for the Machine Trades by Russ Shultz and Larry Smith
Publisher: Pearson Edition: 7
ISBN: 0-13-217220-8
Book used in Semester 1 DRF105

Course Outcomes and Learning Objectives:**Course Outcome 1.**

Upon successful completion of this course, the student will demonstrate the ability to modify
Two dimensional sketching

Learning Objectives 1.

- Establish Sketch Planes
- 2D Constraints
- Parametric Dimensions

Course Outcome 2.

Upon successful completion of this course, the student will produce Revolved and Extruded
Features

Learning Objectives 2.

- Extrude Solid Parts From Sketches
- Revolve Solid Parts from Sketches
- Cut-outs from Parts using Extrusions
- Revolved Cuts from Parts using Revolutions
- Establishing Planes for Features

Course Outcome 3.

Upon successful completion of this course, the student will be able to demonstrate Holes and
Patterns

Learning Objectives 3.

- How to Use Hole and Thread Features
- How to use Patterns to Create Multiple Features

Course Outcome 4.

Upon successful completion of this course, the student will be able to create Assemblies

Learning Objectives 4.

- Create Assemblies
- Understand Assembly Constraints

Course Outcome 5.

Upon successful completion of this course, the student will be able to produce drawings from 3D Models and Assemblies

Learning Objectives 5.

- Placing Principle Orthographic Views
- Section Views
- Auxiliary Views
- Placement of Dimensions, Tolerances, Feature Control Frames, and, Comments

Course Outcome 6.

Upon successful completion of this course, the student will be able to utilize the Advantages of Solid Modeling

Learning Objectives 6.

- Mass Property Analysis
- Check Interferences
- Linked Parts and Assemblies
- Editing and Modifying Parts and Assemblies

Date:

Monday, December 18, 2017

Please refer to the course outline addendum on the Learning Management System for further information.