

Certificate Course in Mechanical Engineering with Specialization "CREO SOFTWARE" Held On 25th September to 29th September 2018



Department of Mechanical Engineering, KG Reddy College of Engineering & Technology

Chilkur (Village), Moinabad (Mandal), Hyderabad RR Dist-501504

Course coordinator

Principal
KG Reddy College of Engineering & Technology
Chilkur (V), Moinabad (M).
R.R.Dist., Telangana.

Principal



SUMMARY REPORT ON CREO

About the Course

The certificate course on CREO is concluded its work successfully by department of Mechanical Engineering (ME) in KG Reddy college of Engineering and technology (KGRCET), Hyderabad, Telangana. This course is a forum to bring together students to discuss innovative ideas and diverse topics of this course on next generation of information technologies. Department has taken a new step for students to improve the quality of study through this course and become most wide scale, extensive, spectacular event in ME. The course was held in two locations of the department (a) Department E-learning room and (b) Department class.

This course is designed for new users who want to become proficient with Pro/ENGINEER Wildfire 5.0 as quickly as possible. It will focus on learning core-modeling skills in this comprehensive, hands-on course. Topics include understanding the interface and basic Pro/ENGINEER concepts, selecting and editing, sketching and sketcher tools, and basic feature creation. The course also includes a comprehensive design project that enables to practice the new skills by creating realistic parts. After completing the course it will be well prepared to work effectively on product design projects using Pro/ENGINEER Wildfire.

This course is absolutely practical oriented course which is helped to student for making their carrier through database in any industry. The students of 4th year 1st semester have been benefited in many ways from this course. More than 80 students have joined in this course as their own interest and completed this course. The trainer taught to students very nice with real time example and sharing his knowledge to develop technical skill in industry.

Objectives of the course

Learning the basic Pro/ENGINEER Design Process

- Understanding Pro/ENGINEER concepts
- Learning how to use the Pro/ENGINEER interface
- Selecting and editing items
- Sketching geometry and using tools
- Creating sketches for features
- Creating datum planes and datum axes
- Creating extrudes, revolves, and ribs
- · Utilizing internal sketches and embedded datums
- Creating sweeps and blends
- Creating holes, shells, and drafts
- Creating rounds and chamfers
- Comprehensive Design Project

Scope of the Course

Creo 2.0 has got vast scope. Many companies are now switching to Creo because of its Parametric, Easy UI, More enhanced tools, CAE features, In built simulate and Etc. features(like sheetmetal, Free Style). So get itself mastered in any one module of this software and get ready to rule in market. Also TVS, VECV, Eicher Motors works solely on Creo.



OUTPUT:

This course was not only shared the knowledge among students but also tied up with expert for upcoming course.

- Optimised for model-based enterprises.
- Increased engineer productivity.
- Better enabled concept design.
- Increased engineering capabilities.
- Increased manufacturing capabilities.
- Better simulation.
- Design capabilities for additive manufacturing.

Summary of Participants

- (a) Number of students attended this course: #8
- (b) Number of student attend the exam: 78
- (c) Number of certificate issued: 78

Day-1 25/09/18

Time: 09:00 AM to 10:00 AM

Inauguration of certificate course

The first day of certificate course started with welcoming and opening ceremony at the KGRCET conference Hall. The following dignitaries were representatives of the certificate course who were addressed and pointed out the importance on course with short welcoming speeches.

Welcome addressed by Dr. P. Pravuraj, HOD, H&S, KGRCET About the certificate course by Principal Dr. R. S. Jahagirdar, KGRCET. Importance of this course by expert trainer Mr. Raj Vaddepally, Hyderabad Interaction with 4th year 1st semester students

Time: 10:00 AM to 04:15 PM

Creating a New Assembly by Assembling the Part Models

An assembly is created from one or more parts. The parts are located and assembled with respect to one another just as they are on a real product. An assembly can be used to:

- Check for fit between parts.
- Check for interference between parts.
- Capture bill of material information.



• Calculate the total weight of an assembly.

Understanding Solid Modeling Concepts

Pro/ENGINEER Wildfire enable to create solid model representations of the part and assembly models.

Solid Models:

- Are realistic visual representation of designs.
- Contain properties such as mass, volume, and center of gravity.
- Can also be used to check for interferences in an assembly.

These virtual design models can be used to easily visualize and evaluate the design before costly prototypes are manufactured. The models contain material properties such as mass, volume, center of gravity, and surface area. As features are added or removed from the model, these properties update. For example, if it adds a hole to a model, then the mass of the model decreases.

Day-2 26/09/18

Understanding Parametric Concepts

Pro/ENGINEER models are value driven, using dimensions and parameters to define the size and location of features within the model. If it changes the value of a feature dimension, that feature will update according to the change. The change then automatically propagates through to related features in the model, updating the entire part.

Understanding Associative Concepts

Bi-directional associativity means that all changes made to an object in any mode of Pro/ENGINEER are automatically reflected in every related mode. For example, a change made in a drawing is reflected in the part being documented in the drawing. That same change is also reflected in every assembly using that part model. It is important to understand that the associativity between different modes is possible because the part shown in a drawing is not copied into the drawing, but rather associatively linked to the drawing. Likewise, an assembly is not a large file containing copies of every part in the assembly, but rather a file containing associative links to every model used in the assembly.

Understanding Model-Centric Concepts

In a model-centric product development tool, the design model is the common source for all deliverables making use of that design model. This means that all downstream deliverables point directly to a common design model. The model is referenced as components in assemblies, views in a drawing, the cavity of a mold, geometry meshed in a FEM model, and so on.



Day-3 27/09/18

Understanding the Main Interface Main Interface Theory

There are many different areas of the Pro/ENGINEER user interface that it uses when creating models. The areas that display depend upon the function being performed.

Understanding Model Tree Filters Model Tree Filters Theory

The model tree contains a hierarchical list of features or components in the order created. It can filter what is displayed in the model tree both in terms of item display and feature types. The filtering of item display and feature types is controlled by the Model Tree I tems dialog box, shown in the top-left figure. Open the Model Tree Items dialog box by clicking **Settings** from the top of the model tree, and then selecting **Tree Filters**.

Selecting Items using Direct Selection Selecting Items using Direct Selection

After selecting features, geometry, or components in a model, assembly, or drawing, it able to make modifications to the selected items. Direct selection is one of the three basic methods of selection.

Using the Smart Selection Filter

Pro/ENGINEER automatically selects the Smart selection filter, if it is available. When using the Smart selection filter, the selection of features, geometry, or components is a nested process. This means you can select specific items of interest after the initial selection. There are two levels of selection when using the Smart Filter:

- Feature/Component Level
- Geometry Level

Day-4 28/09/18

Creating Coaxial Holes Hole Creation Theory

When creating hole features on a model, it locates holes by selecting placement (primary) and offset (secondary) references. The first piece of geometry selected to place the hole is the placement reference. Next, it either select additional placement references or offset references to further dimensionally constrain the hole feature. The type of geometry selected as the placement reference determines the type of hole being created.



6

Creating Linear Holes

Hole Creation Theory

When creating hole features on a model, it locates holes by selecting placement (primary) and offset (secondary) references. The first piece of geometry selected to place the hole is the placement reference. Next, it either selects additional placement references or offset references to further dimensionally constrain the hole feature. The type of geometry selected as the placement reference determines the type of hole being created.

Understanding Connection Theory

A mechanical connection is a method of constraining components so they form a joint. Joint connection examples include Sliders, Pins, and Cylinders. Creating a Joint connection is similar to creating Assembly constraints between components. Joint connections enable it to create true-to-life connections between components so it can simulate motion between moving parts. For example, it can create a slider joint between an engine cylinder and the piston head so the piston head can translate within the cylinder.

Dragging Connected Components

One method of testing assembly connections is to drag the assembly through its range of motion. To drag an assembly, click Drag Components and then click a part model. It can select edges, points, axes, datum planes, or surfaces to initiate the dragging movement.

Day-5 29/09/18

Creating New Drawings using Drawing Templates

Like part and assembly templates, a drawing template provides it with a starting point to create drawings. It uses drawing templates when it want to create a standardized drawing. Drawing templates can automatically create views, set the desired view display and view options, display formats, and show model dimensions based on the template. It can configure Pro/ENGINEER to use a default drawing template when creating a new drawing, or it can select a different one. A drawing template is shown in the upper figure, while a drawing created using the drawing template is shown in the lower figure. The views created within a drawing that uses a template are determined from the model's view orientations. It should consider drawing view orientations when creating the models.

Moving Views

By default, when views are placed on a drawing they cannot be moved. They are locked to the drawing. It can unlock drawing views for movement in the drawing by selecting a view, right-clicking, and toggling the Lock View Movement option. The toggle for locking view movement is a system setting rather than an individual drawing view setting. If one view is unlocked, all views are unlocked.

Once views are unlocked, a drawing view can be moved according to any parent/child relationships that exist between views. Since a general view has no parent views, it can be moved anywhere on the drawing. When a general view is moved, any child views move accordingly. A child view, on the other hand, can only move according to the angle of projection from the parent view.



Ref No: KGRCET/ME/2018-19/11

Date: 20/09/2018

CIRCULAR

All the IV-Year I-semester B. Tech Mechanical Engineering students are here by informed to enroll for the certification course on "CREO SOFTWARE", which is offering by KG Reddy college of Engineering and Technology from 25/09/2018 to 29/09/2018. Interested students are instructed to complete their registration before 23/09/2018.

Copy to:

- 1. Exam Section
- 2. Notice Boards
- 3. Library

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R.R.Dist., Telangana.



KG REDDY COLLEGE OF ENGINEERING & TECHNOLOGY Chilkur (Vill) Moinabad (Mdl) R R Dist

DEPARTMENT OF MECHANICAL ENGINEERING

CERTIFICATE COURSE ON CREO

SCHUDULE

Day	Date	Timings	Topic name
1	25/09/18	09:00 to 11:00	Introduction to CREO
		11:10 to 01:00	Fundamentals of CAD
		01:45 to 02:50	CREO Parametric Interface
		02:50 to 04:15	File, View and Display functions
	26/09/18	09:00 to 11:00	Feature Based Modeling
			Model tree and working with models
2		11:10 to 01:00	Sketcher basics
		01:45 to 02:50	Manipulating Sketches within the sketcheR
		02:50 to 04:15	Part modeling
	27/09/18	09:00 to 11:00	Base Feature
3		11:10 to 01:00	Engineering features
3		01:45 to 02:50	Edit Features.
		02:50 to 04:15	Datum Features
	28/09/18	09:00 to 11:00	Detailing
4		11:10 to 01:00	Creating drawing
7		01:45 to 02:50	Working with drawing sheets
		02:50 to 04:15	Annotating the drawing
5	29/09/18	09:00 to 11:00	Design Assembly
		11:10 to 01:00	Creating assemblies
		01:45 to 02:50	Placing Components
		02:50 to 04:15	Manipulating components



KG REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

Chilkur (Vill) Moinabad (Mdl) R R Dist

DEPARTMENT OF MECHANICAL ENGINEERING CERTIFICATE COURSE ON CREO ATTENDANCE SHEET

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Signature of The Coordinator



KG REDDY COLLEGE OF ENGINEERING & TECHNOLOGY Chilkur (Vill) Moinabad (Mdl) R R Dist



B.TECH	IV Year I SEM, Sep - 2018
	REO SOFTWARE
OB	JECTIVE EXAM

NAME	B. Maresh Kuma	OBJECTIVE EXAM	
MANIE	B / (cores) (remo	THALL TICKET NO	303
Answ	er all the questions. All ques	tions carry equal marks. Time: 30min. 10 marks.	
I choo	se correct alternative:	of the state of th	•
1.	In CREO will add motion of part		
	1) Yes	2) No	
	a) Only 1 is correct	b) Only 2 is correct	a
	c) both are correct	d) both are wrong	
2.	CREO drawing can be opened in A	AutoCAD	
	1) Yes	2) No	
	a) Only 1 is correct	b) Only 2 is correct	b
	c) both are correct	d) both are wrong	
3.	In CREO the units of part be change	ged without changing the size of the part	
	1) Yes	2) No	
	a) Only 1 is correct	b) Only 2 is correct	a
	c) both are correct	d) both are wrong	
4.	Before revealing the CREO brand,	PTC referred to its project to revolutionize the CAD industry as	
	a) Project Green	b) Project Galaxy	
	c) Project Lightning	d) None of this	
5.	CREO means many things in diffe	rent languages which is	×
	a) To create	b) To believe	·
	c) PTC's suite of design software	d) All of the above	4
6.	Pro/Engineer has been rebranded,	indicating that it's a first step on the path of CREO - what's the new name	
	a) CREO elements/direct	b) CREO elements/Pro	
	c) CREO elements/view	d) CREO elements/edit	5
7.	Which button should you hold dov	vn when you want to change the sketching plane that is already selected	
	a) Ctrl	b) Tab	1
	c) Shift	d) Alt	av
8.	What is the minimum number of si	urfaces you must remove when adding a shell feature	
	a) 1	b) 2	a
	c) 3	d) 4	
9.	What is the minimum number of se	ection you must sketch when adding a blend feature	
	a) 1	b) 2	
	c) 3	d) 4	6
10.	Feature in CREO refers to		
	a) Line	b) Circle	*
	c) Geometric	d) Entity	C



