

VME01 CREO FOR DESIGN ENGINEERS

COURSE OBJECTIVES:

To impart knowledge on

- Hands-on-training of 2D drafting and 3D modeling of product.
- Applying CAD in real life applications.
- Design, Optimization, Manufacturing and Product Development to bring new technologies.

COURSE OUTCOMES:

Upon completion of this course the students would be able to

- Apply the concepts and commands of a computer-aided design system.
- Understand the basic concepts of 2D drafting and 3D modeling of product.
- Providing theoretical and practical knowledge of computer tools necessary to transform the product ideas of Entrepreneurs into a marketable.
- Develop commercially viable product which satisfies most of the customer's requirements.

UNIT I **Part Modeling (Basics-I)** **03**

Selecting & Editing of Geometry, Features, Models – Sketcher Geometry & Sketcher Tools- Sketches & Datum Features – Extrudes-solid, Revolves-solid and Ribs.

UNIT II **Part Modeling (Basics-II)** **08**

Creating Holes-Coaxial, Linear, Radial and Diameter holes, Shells, Draft-Split draft & Patterns-Axis pattern – Creating rounds-by selecting a surface and edge, selecting two surfaces, full rounds, Chamfers & Layers.

UNIT III **Part Assembly** **06**

Assembling with constraints-Assembly theory, default constraints, Coincident constraints, Distance constraints, Parallel, normal & angle constraints Exploding, Replacing components, Cross-Sections in Assemblies.

UNIT IV **Part Modeling (Advanced)** **09**

Creating Sweeps and Blend- sweeps with variable sections- helical sweeps and swept blends- groups, copy, mirror & UDF's- Measuring, Inspecting Models.

UNIT V **Flexible Modeling** **04**

Introduction to flexible modeling- Editing, IGES, STEP Transformations & Recognition in Flexible Modeling.

TOTAL: 30 PERIODS

TEXTBOOK:

1. Sham Tickoo, "Pro/Engineer PTC Creo Parametric 3.0 for Engineers and Designers", Dreamtech, 2012.

REFERENCE BOOK:

1. Randy H. Shih, "Parametric Modeling with Creo Parametric 2.0", SDC Publications, 2013.

EXTENSIVE READING:

1. Roger Toogood, Jack Zecher, "Creo Parametric 2.0 Tutorial", SDC Publications, 2013.

WEB REFERENCE:

1. <http://www.creo.ptc.com/>