



OVERVIEW OF COURSE

SolidWorks Fundamentals

Course Length: 4 days

This course will teach you everything you need to know to start using SOLIDWORKS with easy to understand, step-by-step instruction and exercises. This course features a simple robot design used as a project throughout the course. You will learn to model parts, create assemblies, run simulations and even create animations of your robot design.

No previous experience with Computer Aided Design (CAD) is needed since this course starts at an introductory level. We begin by getting you familiar with the SOLIDWORKS interface and its basic tools right away. You will start by learning to model simple robot parts and before long you will graduate to creating more complex parts and multi-view drawings.

Along the way you will learn the fundamentals of parametric modeling through the use of geometric constraints and relationships. You will also become familiar with many of SOLIDWORKS's powerful tools and commands that enable you to easily construct complex features in your models. Also included is coverage of gears, gear trains and spur gear creation using SOLIDWORKS.

This course continues by examining the different mechanisms commonly used in walking robots. You will learn the basic types of planar four-bar linkages commonly used in mechanical designs and how to use the GeoGebra Dynamic Geometry software to simulate and analyze 2D linkages. Using the knowledge you gained about linkages and mechanisms, you will learn how to modify your robot and change its behavior by modifying or creating new parts.

You learn how to combine all the robot parts into assemblies and then run motion analysis. You will finish off your project by creating 3D animations of your robot in action.

Finally, we introduce you to 3D printing. You will learn the general principles of 3D printing including a brief history of 3D printing, the types of 3D printing technologies, commonly used filaments, and the basic procedure for printing a 3D model. Being able to turn your designs into physical objects will open up a whole new world of possibilities to you.

Topics include:

- Introduction - Getting Started
- Parametric Modeling Fundamentals
- CSG Concepts and Model History Tree
- Parametric Constraints Fundamentals
- Pictorials and Sketching
- Symmetrical Features and Part Drawings
- Datum Features in Designs
- Gears and SOLIDWORKS Design Library

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- Advanced 3D Construction Tools
- Planar Linkage Analysis using GeoGebra
- Design Makes the Difference
- Assembly Modeling and Motion Analysis
- Introduction to 3D Printing

Prerequisites

None



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Cancellation Policy

The following cancellation policy shall apply to all training engagements, Live Online, Onsite, Consulting Services and Dedicated/ Custom Training:

- Company reserves the right to reschedule or cancel the date, time and location of its class at any time. In the event that a Training Class is cancelled by Company, Customer is entitled to a full refund. Company shall not be responsible for any other loss incurred by Customer as a result of a cancellation or reschedule.
- For Customer cancellations when written notice is received at least ten (10) business days in advance of the class, the Customer is entitled to a full refund of its payment or reschedule enrollment less than ten (10) business days, Customer shall not be entitled to a refund, but shall receive a class credit to be used within three (3) months of the date of the original class.
- Student substitutions are acceptable with at least two (2) days prior notice to the class, provided substitution meets course prerequisites and is approved by Company's Training Coordinator. (training@dezinext.com)
- For all Training orders, cancellation notices must be submitted to training@dezinext.com. Company is not responsible for any error in the delivery of the email notice. In the event of any reschedule of Onsite training and/or Consulting Services and/or Dedicated/Custom Training by Customer, Company will invoice Customer for all non-cancellable travel expenses.

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