

## SolidWorks Motion Simulation – 2 Days

Description	This course will teach you how to use the SolidWorks Motion simulation package to study the kinematics and dynamic behaviour of your SolidWorks assembly models. The course has been designed for new SolidWorks Motion users who would like to learn to perform motion analysis on their designs. It provides an in-depth session on the basics of building, simulating and refining a mechanical design system.
Prerequisites	Certified SolidWorks Essentials – Part & Assembly Modelling, SolidWorks Simulation Essentials

<p><b>Introduction</b>                  What is SolidWorks Motion?                  Understanding Basics                  Basics of Mechanism Setup in SolidWorks                  Motion                  Summary</p> <p><b>Lesson 1: Introduction to Motion Simulation and Forces</b>                  Objectives                  Basic Motion Analysis                  Case Study: Car Jack Analysis                  Forces                  Results</p> <p><b>Lesson 2: Building a Motion Model and Post processing</b>                  Objectives                  Creating Local Mates                  Case Study: Crank Slider Analysis                  Mates                  Local Mates                  Power                  Plotting Kinematic Results                  Summary</p> <p><b>Lesson 3: Introduction to Contacts, Springs and Dampers</b>                  Objectives                  Contact and Friction                  Case Study: Catapult                  Contact                  Contact Groups                  Contact Friction                  Translational Spring                  Translational damper                  Post-processing                  Analysis with friction (Optional)                  Summary</p>	<p><b>Lesson 4: Advanced Contact</b>                  Objectives                  Contact Forces                  Case Study: Latching Assembly                  STEP Function                  Contact: Solid Bodies                  Geometrical Description of Contacts                  Integrators                  Instability Points                  Modifying Result Plots                  Summary</p> <p><b>Lesson 5: Curve to Curve Contact</b>                  Objectives                  Contact Forces                  Case Study: Geneva Mechanism                  Curve to Curve Contact                  Solid Bodies vs. Curve to Curve Contact                  Solid Bodies Contact Solution                  Summary</p> <p><b>Lesson 6: Cam Synthesis</b>                  Objectives                  Cams                  Case Study: Cam Synthesis                  Trace Path                  Exporting Trace Path Curves</p> <p><b>Lesson 7: Motion Optimization</b>                  Objectives                  Motion Optimization                  Case Study: Medical Examination Chair                  Sensors                  Optimization Analysis</p> <p><b>Lesson 8: Flexible Joints</b>                  Objectives                  Flexible Joints                  Case Study: System with Rigid Joints                  System with Flexible Joints                  Summary                  References</p> <p><b>Lesson 9: Redundancies</b>                  Objectives                  Redundancies                  Case Study: Door Hinges                  How to Check for Redundancies                  Typical Redundant Mechanisms                  Summary</p>	<p><b>Lesson 10: Export to FEA</b>                  Objectives                  Exporting Results                  Case Study: Drive Shaft                  Export of Loads                  Direct Solution in SolidWorks Motion                  Summary</p> <p><b>Lesson 11: Event Based Simulation</b>                  Objectives                  Event Based Simulation                  Case Study: Sorting Device                  Servo Motors                  Sensors                  Task                  Summary</p> <p><b>Lesson 12: Design Project (optional)</b>                  Objectives                  Design Project                  Case Study: Surgical Shear – Part 1                  Self-Guided Problem – Part 1                  Self-Guided Problem – Part 2                  Problem Solution - Part 1                  Creating the Force Function                  Force Expression                  Case Study: Surgical Shear – Part 2                  Summary</p> <p><b>Appendix A: Motion Study Convergence Solutions and Advanced Options</b>                  Convergence                  Accuracy                  Integrator Settings                  Conclusion</p> <p><b>Appendix B: Mate Friction</b>                  Mate Friction</p>
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To Book call: 1300 SWX CAD (1300 799 223)

