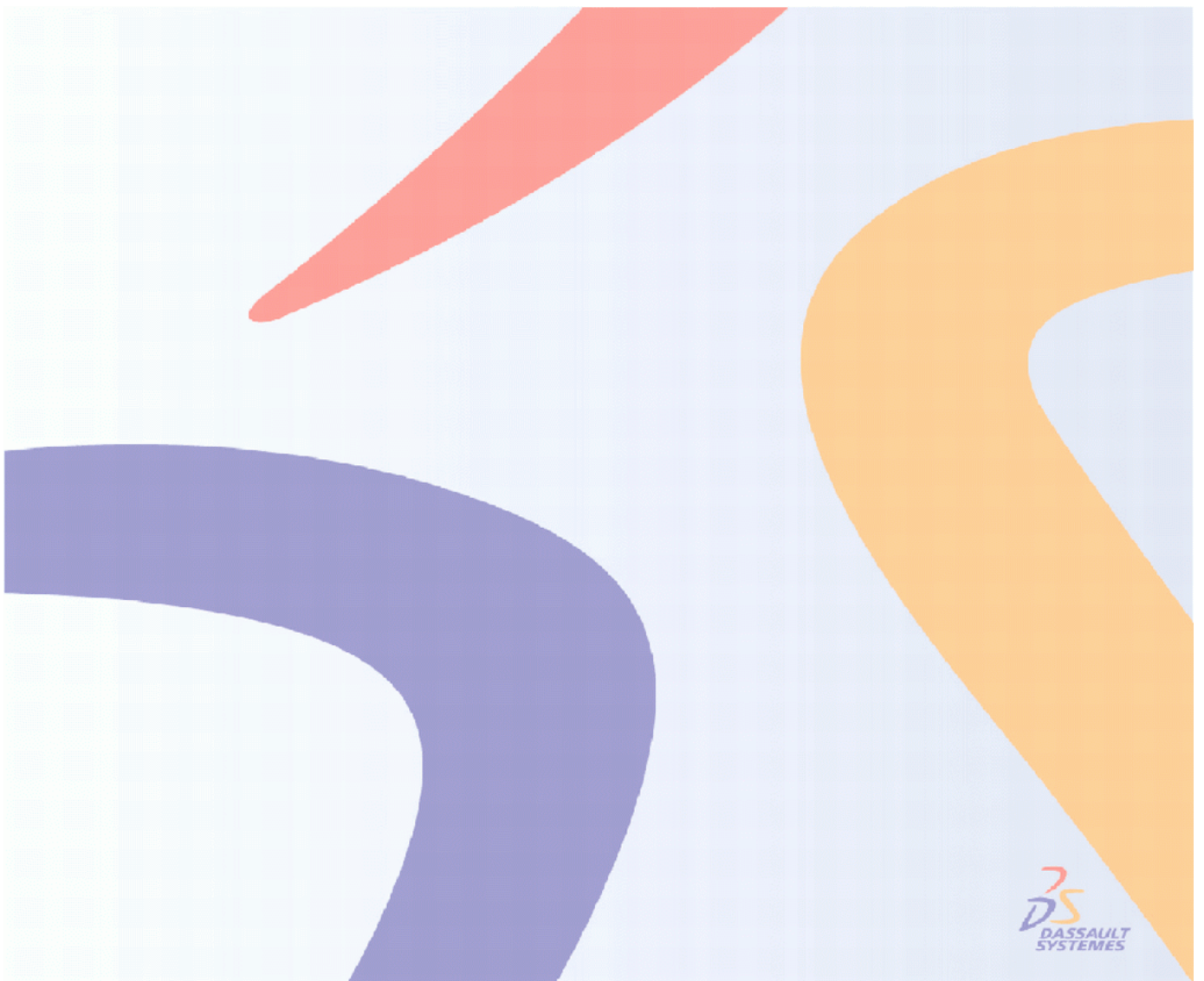


Digital Mock-Up V5R19 Course Material Catalog

January 2009 Edition



Digital Mock-Up V5R19 Course Material Catalog

Digital Mock-Up Course Material	3
Digital Mock-Up Solutions	3
ANR: DMU Engineering Analysis Review (EDU-DMU-E-ANR-F - V5R19)	4
DMB: Digital Mock Up Basics (EDU-DMU-E-DMB-F - V5R19)	5
DMN: Digital Mock Up Navigator (EDU-DMU-E-DMN-F - V5R19)	6
DMO: Digital Mock Up Optimizer (EDU-DMU-E-DMO-F - V5R19)	7
FIT: Digital Mock-Up Fitting Simulator (EDU-DMU-E-FIT-F - V5R19)	8
KIN: Digital Mock-Up Kinematics Simulator (EDU-DMU-E-KIN-F - V5R19)	9
KIN: Digital Mock-Up Kinematics Simulator (EDU-DMU-E-KIN-F - V5R19)	10
SPA: Digital Mock Space Analysis (EDU-DMU-E-SPA-F - V5R19)	11

Digital Mock-Up Course Material

Digital Mock-Up Solutions



Course Code	EDU-DMU-E-ANR-F
Brand & Release	Digital Mock-Up V5R19
Duration	0.1 day
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DMU-E-ANR-FI-V5R19
Foils: EDU-DMU-E-ANR-FF-V5R19
Exercises: EDU-DMU-E-ANR-FX-V5R19
Detailed Steps: EDU-DMU-E-ANR-FS-V5R19

Objectives

Use the DMU Analysis workbench
Review analyses from the Analysis and Simulation workbenches
Review analyses coming from third party applications.
Animate an assembly
Detect extrema and analyze assembly sections
Generate and manage resulting images and reports

Participants' Profile

Designers (P2 users only)

Prerequisites

DMB-F: Digital Mock Up Basics
DMN-F: Digital Mock Up Navigator
SPA-F: Digital Mock Space Analysis

Content

This course will show you how to review parts and products which have been previously analysed using Analysis and Simulation workbench tools.

- DMU Engineering Analysis Review Overview
- Generating Results
- Managing Results

Exercises

Ex. 1: Generate Results (5min) / All sectors
Ex. 2: Animate Image (15min) / All sectors



Course Code	EDU-DMU-E-DMB-F
Brand & Release	Digital Mock-Up V5R19
Duration	0.5 day
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DMU-E-DMB-FI-V5R19
Foils: EDU-DMU-E-DMB-FF-V5R19
Exercises: EDU-DMU-E-DMB-FX-V5R19

Objectives

- Understand the capabilities of the Digital Mock-Up workbenches
 - Manage assembly components and explore mock-up details
 - Manipulate view points
 - Perform measurements
 - Highlight critical areas using 2D and 3D annotations
- Link information to external files

Participants' Profile

All CATIA and DMU Users

Prerequisites

CATIA V5 Fundamentals

Content

This course will allow you understand the general capabilities of the CATIA V5 digital mock-up workbenches. It will allow you to visualize and investigate a complex assembly, to investigate problem areas and highlight critical points.

- Introduction to DMU
- Preparing the Session
- Editing Components
- Navigating through Components
- Managing Viewpoints and Visualization
- Basic Measuring
- Annotating

Exercises

- Ex. 1: DS Business Jet : Customizing your session (5min) / All sectors
- Ex. 2: DS Business Jet : Editing Components (20min) / All sectors
- Ex. 3: DS Business Jet : Navigating Through Components (5min) / All sectors
- Ex. 4: DS Business Jet : Navigation (5min) / All sectors
- Ex. 5: DS Business Jet : Managing Viewpoints (15min) / All sectors
- Ex. 6: DS Business Jet : Measuring (15min) / All sectors
- Ex. 7: DS Business Jet : Annotating (15min) / All sectors



Course Code	EDU-DMU-E-DMN-F
Brand & Release	Digital Mock-Up V5R19
Duration	1 day
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DMU-E-DMN-FI-V5R19
Foils: EDU-DMU-E-DMN-FF-V5R19
Exercises: EDU-DMU-E-DMN-FX-V5R19

Objectives

Work with basic and advanced functionalities of the DMU Navigator workbench
Modify components' properties and position components
Animate the Mock-up by creating simulations and create movies from simulations
Manage Mock-up configurations with scenes
Save specific Mock-up configurations for analysis purposes
Create annotated views of the Mock-Up for communication purposes

Participants' Profile

Mechanical Designers, Managers

Prerequisites

DMU Basics

Content

This course will show you how to manipulate a Digital Mock-Up in the context of an engineering review, and make simulations to create review presentations

- Introduction to DMU Navigator
- Managing Components
- Managing Simulations
- Managing Video Animations
- Managing Scenes
- Managing and Presenting Applicative Data
- Managing 2D Documents

Exercises

- Ex. 1: DS Business-Jet : Managing Components (10min) / All sectors
Ex. 2: DS Business-Jet : Creating Simulations (20min) / All sectors
Ex. 3: DS Business-Jet : Generating Video Animations (15min) / All sectors
Ex. 4: DS Business-Jet : Creating and Editing Enhanced Scenes (15min) / All sectors
Ex. 5: DS Business-Jet : Managing DMU Presentations (10min) / All sectors



Course Code	EDU-DMU-E-DMO-F
Brand & Release	Digital Mock-Up V5R19
Duration	0.5 day
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DMU-E-DMO-FI-V5R19
Foils: EDU-DMU-E-DMO-FF-V5R19
Exercises: EDU-DMU-E-DMO-FX-V5R19

Objectives

Upon completion of the course, you will be able to:

- Understand which DMU Settings and capabilities are used to manage simplified representations
- Select and use a simplified representation
- Compute thickness and offset representations
- Compute swept and vibration volumes
- Compute Free Space and 3D Cut representations for measurement purposes

Participants' Profile

Mechanical Designers, Engineering Managers

Prerequisites

DMB-F: Digital Mock Up Basics
SPA-F: Digital Mock Space Analysis

Content

This course will show you how to improve productivity by computing an optimized data geometric representation for rapid mockup verification in the context of a collaborative design review environment.

- Introduction to Digital Mock-Up Optimizer
- About Alternate Shapes
- Simplifying a Representation
- Generating Thickness and Offset
- Generating Swept Volume and Vibration Volume
- Generating Free Space and 3D Cut

Exercises

Ex. 1: DMO Master Exercise - Washing Machine (30min) / All sectors



Course Code	EDU-DMU-E-FIT-F
Brand & Release	Digital Mock-Up V5R19
Duration	0.5 day
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DMU-E-FIT-FI-V5R19
Foils: EDU-DMU-E-FIT-FF-V5R19
Exercises: EDU-DMU-E-FIT-FX-V5R19

Objectives

Upon completion of this course you will be able to:

- Understand the general process of fitting simulation.
- Define shuttles and groups.
- Create tracks to move components or a group of components.
- Define the order in which the tracks and actions will take place.
- Find the time duration for each track and action.
- Perform clash analysis during sequence and tracks simulation.

Participants' Profile

Designers (P2 users only)

Prerequisites

DMU Basics
DMU Space Analysis

Content

This course will show you how to efficiently define the procedure of mounting and un-mounting component parts. You will learn how to optimize the process for ease of assembly and maintenance.

- Introduction
- Defining Shuttle
- Defining Tracks
- Creating Sequences
- Performing Clash Analysis
- Other Helpful Tools

Exercises

- Ex. 1: Car Suspension – Play the Ready-To-Use replay (5min) / Automotive
- Ex. 2: Car Suspension – Manage Actions (10min) / Automotive
- Ex. 3: Car Suspension – Manage Sequences (10min) / Automotive
- Ex. 4: Car Suspension – Compute Swept Volume (5min) / Automotive
- Ex. 5: Recap Exercise: Defining Tracks (15min) / All sectors
- Ex. 6: Recap Exercise: Creating Sequences (10min) / All sectors
- Ex. 7: Recap Exercise: Performing Clash Analysis (15min) / All sectors



Course Code	EDU-DMU-E-KIN-F
Brand & Release	Digital Mock-Up V5R19
Duration	1 day
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DMU-E-KIN-FI-V5R19
Foils: EDU-DMU-E-KIN-FF-V5R19
Exercises: EDU-DMU-E-KIN-FX-V5R19

Objectives

Upon completion of this course you will be able to:

- Understand the capabilities and the General Process followed in DMU Kinematics workbench.
- Learn about the capabilities of the DMU Kinematics workbench.
- Give the motion instructions to your mechanism and impart movement to the various components of your mechanism.
- Perform various analyses when the mechanism is getting simulated.
- Sequence multiple mechanisms and run them.

Participants' Profile

Designers (P2 users only)

Prerequisites

DMB-F: Digital Mock Up Basics
SPA-F: Digital Mock Up Space Analysis

Content

This course will show you how to design mechanisms from an existing assembly. You will also learn to simulate and analyze the mechanisms for clashes and other types of analysis.

- DMU Kinematics an Overview
- Defining a Mechanism
- Simulating Mechanisms
- Analyzing Movements
- Recording and Playing Simulations
- Miscellaneous Functionalities

Exercises

Ex. 1: Plane – Step1: Create a Mechanism (15min) / All sectors
Ex. 2: Plane – Step2: Convert Assembly Constraints (15min) / All sectors
Ex. 3: Plane – Step3 : Simulate the Mechanism (10min) / All sectors
Ex. 4: Master Exercise : Elliptical Trainer (120min) / All sectors



Course Code	EDU-DMU-E-KIN-F
Brand & Release	Digital Mock-Up V5R19
Duration	1 day
Language	English
Level	Fundamentals
Method	ILT

Training Material References

Instructor Foils: EDU-DMU-E-KIN-FI-V5R19
Foils: EDU-DMU-E-KIN-FF-V5R19
Exercises: EDU-DMU-E-KIN-FX-V5R19

Objectives

Upon completion of this course you will be able to:

- Understand the capabilities and the General Process followed in DMU Kinematics workbench.
- Learn about the capabilities of the DMU Kinematics workbench.
- Give the motion instructions to your mechanism and impart movement to the various components of your mechanism.
- Perform various analyses when the mechanism is getting simulated.
- Sequence multiple mechanisms and run them.

Participants' Profile

Designers (P2 users only)

Prerequisites

DMB-F: Digital Mock Up Basics
SPA-F: Digital Mock Up Space Analysis

Content

This course will show you how to design mechanisms from an existing assembly. You will also learn to simulate and analyze the mechanisms for clashes and other types of analysis.

- DMU Kinematics an Overview
- Defining a Mechanism
- Simulating Mechanisms
- Analyzing Movements
- Recording and Playing Simulations
- Miscellaneous Functionalities

Exercises

Ex. 1: Plane – Step1: Create a Mechanism (15min) / All sectors
Ex. 2: Plane – Step2: Convert Assembly Constraints (15min) / All sectors
Ex. 3: Plane – Step3 : Simulate the Mechanism (10min) / All sectors
Ex. 4: Master Exercise : Elliptical Trainer (120min) / All sectors



Course Code	EDU-DMU-E-SPA-F
Brand & Release	Digital Mock-Up V5R19
Duration	0.5 day
Language	English
Level	Fundamentals
Method	Companion and ILT

Training Material References

Instructor Foils: EDU-DMU-E-SPA-FI-V5R19
Foils: EDU-DMU-E-SPA-FF-V5R19
Exercises: EDU-DMU-E-SPA-FX-V5R19

Objectives

Upon completion of the course, you will be able to review and validate large digital mock-ups (DMU), all along the product life cycle. This will be done through the use of interference analysis, sectioning, measurement and 3D comparison.

Participants' Profile

Mechanical Designers, Engineering Managers

Prerequisites

Digital Mock Up Basics

Content

- Introduction to DMU Space Analysis
- Space Analysis Measuring
- Sectioning
- Analyzing Interferences
- Comparing Products

Exercises

Ex. 1: Measuring Distances (10min) / All sectors
Ex. 2: Sectioning (20min) / All sectors
Ex. 3: Analyzing Interferences (15min) / All sectors