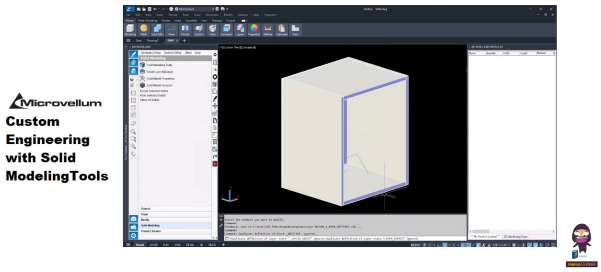
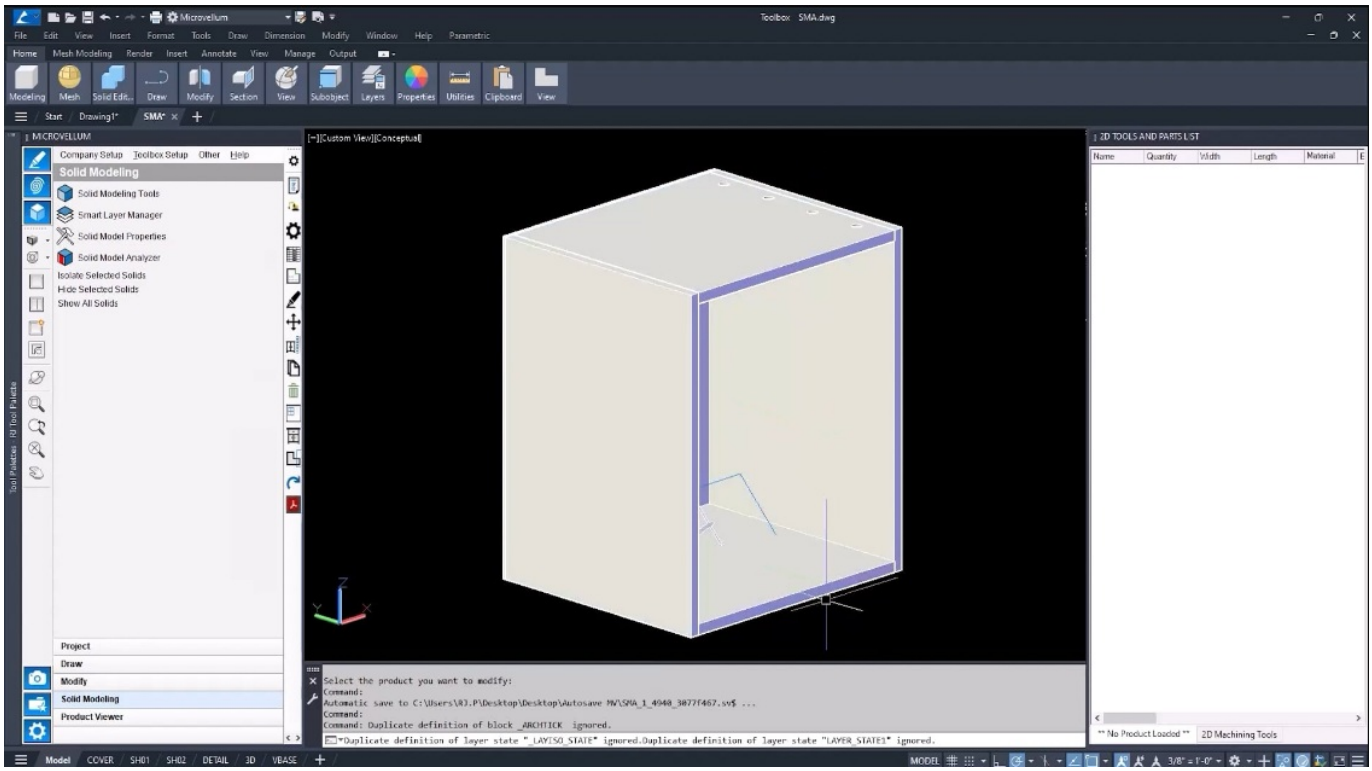


Microvellum Custom Engineering with Solid Modeling Tools Instructions

Contents

Microvellum Custom Engineering with Solid Modeling Tools



Specifications

- **Product Name**: MVU eLearning Syllabus: Custom Engineering with Solid Modeling Tools
- **Instructor**: RJ Pranski, MVU Instructor, Training Analyst at Microvellum
- **Software**: Toolbox (Microvellum's AutoCAD-based design-for-manufacturing software)
- **Training Content**: Designing and engineering a custom reception desk using Solid Modeling Tools
- **Access**: Online training plan available at **MVU Training Plan – Solid Modeling Tools**

Instructor: RJ Pranski, MVU Instructor, Training Analyst at Microvellum

Training Plan Overview
This training plan will walk you through designing and engineering a custom reception desk using the Solid Modeling Tools in Toolbox, Microvellum's AutoCAD-based design-for-manufacturing software. You'll learn how to configure settings, create 2D and 3D die wall entities, prepare the model for analysis, and generate manufacturing data. To access this training plan, go to: **https://www.microvellum.com/resources/mvu-training-plan-solid-modeling-tools**

Objective
After completing this plan, you should be able to:

- Create 3D products from 2D drawings using Extruded Product Builder and Smart Layers.
- Configure and modify Smart Layers for materials, construction methods, and offsets.
- Create and adjust paths for extrusion, part alignment, and joint placement.
- Add and customize parts, hardware, and machining operations with precision.
- Use the Solid Model Analyzer to ensure product designs meet specifications.
- Implement various joint types to customize the assembly.
- Modify 2D and 3D models in real-time for design flexibility.
- Troubleshoot issues and restore modeling sessions as needed.

Schedule

- Using the Extruded Product Builder Template (06:11 minutes)
- Drawing a Simple 2D Section & Understanding Smart Layers (06:43 minutes)
- Modifying Custom Products Created with Extruded Tools (07:27 minutes)
- Adding Supplemental Parts & Analyzing Solids (05:42 minutes)
- Creating Products from 3D Solids Using Solid Model Analyzer (08:13 minutes)
- Adding Multiple Panels with Vertical Reveals (05:06 minutes)
- How to Restore a Previous Solid Model Session (06:36 minutes)
- Building a Custom Product with the Solid Modeling Tools (Part 1) (10:35 minutes)
- Building a Custom Product with the Solid Modeling Tools (Part 1) (10:33 minutes)
- Adding New Hardware with Machine Tokens – Concealed Support Bracket (07:41 minutes)

Exercises & Practice

We recommend following along with each video, attempting to replicate the processes outlined to achieve the same results within your Toolbox project. After watching all the videos, engineer a new custom product, making customizations like those shown in the videos. Attempt to rely on what you've learned. This will solidify your understanding and ability to apply it independently.

Project Files
Download the DWG file used in this training plan.

Assessment
This training plan includes a quiz containing 51 questions. We recommend taking this quiz after watching all the training videos listed above and spending an appropriate amount of time practicing what you have learned. To access the quiz, click the "Test Your Knowledge" button on the Getting Started training plan page on **Microvellum.com**.

Prerequisites

- The training provided in this series of videos is delivered on the assumption that those watching have already completed the four Core Training Plans available within the MVU eLearning library.
- Installed Software: Current version of Toolbox
- Activated Modules: Solid Modeling Tools: Extruded Tools, Solid Model Analyzer
- If you don't have access to a current version of Toolbox and/or these modules, please reach out to your Account Manager.

Estimated Time to Complete

- **Videos**: 1 hour 25 minutes
- **Exercises & Practice**: 2 hours (recommended)
- **Testing Your Knowledge (Quiz)**: 10 minutes
- **Total time**: 3 hours 25 minutes

Follow Up
We hope you find this training plan useful and that it helps you build your foundational knowledge of Toolbox.

Mastering these topics, along with others in our training plans, will surely help you level up your knowledge of Microvellum. If you feel you would benefit from meeting with one of our Certified Service Providers to apply what you've learned or to expedite your progress within your company by creating new or custom products, reports, etc., please let a member of our team know. We'd be happy to schedule you some time with one of our providers. | Get to Know Our Team Until next time, happy learning!

Microvellum University Team
Want to stay informed when we release new training videos? Subscribe to our YouTube channel and enable notifications. Microvellum University eLearning Syllabus: Basic Engineering | Streamline the Way You Learn

Frequently Asked Questions

Q: Can I access the training videos on YouTube?
A: Yes, you can subscribe to Microvellum's YouTube channel to stay informed about new training videos.

Documents / Resources

	Microvellum Custom Engineering with Solid Modeling Tools [pdf] Instructions Custom Engineering with Solid Modeling Tools, Engineering with Solid Modeling Tools, Solid Modeling Tools, Modeling Tools, Tools

References

- User Manual