solidxperts | SOLIDWORKS

FORMATION Credly CERTIFIÉE

3D PRINTING TRAINING

COURSE OUTLINE

www.solidxperts.com

by SXP

TABLE OF CONTENTS

TABLE OF CONTENTS / 3D PRINTING

MARKFORGED (INSTALLATION) – 1 DAY

1. Preparation

- Unboxing
- Verifying Boxes Content
- Printer Installation
- Plugging the Printer on the Network

2. Introduction

- SolidXperts Introduction
- Good Use of 3D Printing
- Comparison Against ABS
- Useful Web Pages
- Eiger Account Creation
- Introduction to STL files

3. Maintenance and Calibration

- 3D Printer Components
- The Use of USB Key
- Leveling Technic
- Fiber Nozzle Adjustment
- Test Prints
- Nozzle Cleaning
- Plastic and Fiber Nozzle Replacement
- Wet Plastic Purge
- XY Adjustment
- Strap Tensioning

4. Informations

- Part Glue
- Print Information
- Mechanical Properties

5. Advanced Operations

- Menu Options
- Fiber/Sandwich Technic
- Type of Fiber Filling
- Part View and Internal View
- Visibility Options
- Completely Filling a Part of Fiber
- Completely Filling a Part of Plastic
- Helping the Fiber Pathing by Changing the Geometry
- Helping the Fiber Pathing by Changing the orientation of the Part
- Brim
- Opening a Request to MarkForged
- Saving the Logs

6. Questions

- Questions
- Starting a Print with a Custom Part

Course Objectives : At the end of each course, students will know the capabilities of the software and will be able to use the learned features.
Training Course : Training is given in class at SolidXperts or online where each student has access to a workstation or online product version.
Methodology : Training is based on case studies demonstrated by the instructor. At the end of each lesson, time will be given for exercises.
Competences Evaluation : During the classwork, the instructor will correct the exercises on-demand and explain the solutions to the entire class if needed.
Instructor : SolidXperts trainers are Certified SolidWorks Instructors (CSWI) and authorized by Emploi-Québec.
Course Materials : One or more training manuals are included with the training course.
Attestation : A certificate will be given to each student at the end of the course to attest to the successful completion of the requirements for the course.

Back to summary

DESIGN FOR ADDITIVE MANUFACTURING (DFAM) – 1 DAY

1. What is Additive Manufacturing?

- Brief history of additive manufacturing
- Examples of uses

2. Basic Principle of Technology

- Mechanical operation
- Special features of the FFF process
- Strengths and weaknesses of the technology

3. Presentation of Printing Materials

- ABS and PLA
- Onyx
- Continuous fiber

4. Overview of Printing Software

- Creation of an STL file
- Example of printing software

5. Producing Efficiently

- Choose the right orientation
- Limit the use of support material
- Limit weaknesses (sense of impression)
- Limit printing time
- Support behavior

6. Questions to Ask Yourself Before Producing a Part

- Purpose of manufacture
- Usage environment
- Duration of use
- Number of parts to manufacture
- Technologie available

7. Adaptation of the design according to the type of manufacture and use

- Machining mode of thinking vs. Additive manufacturing

8. Design Optimization for FFF Additive Manufacturing

- Precision and tolerances
- Wall thicknesses
- Minimum dimensions
- Reduce stress
- Chamfer vs. Rounding
- Limit fragility
- Surface quality
- Cost and manufacturing time

9. Tips for Greater Durability

- Wear parts and technology integration
- Use of purchased parts
- Thread
- Pause while printing

10. Scenarios

- Prototyping
- Tools

Course Objectives : At the end of each course, students will know the capabilities of the software and will be able to use the learned features.
Training Course : Training is given in class at SolidXperts or online where each student has access to a workstation or online product version.
Methodology : Training is based on case studies demonstrated by the instructor. At the end of each lesson, time will be given for exercises.
Competences Evaluation : During the classwork, the instructor will correct the exercises on-demand and explain the solutions to the entire class if needed.
Instructor : SolidXperts trainers are Certified SolidWorks Instructors (CSWI) and authorized by Emploi-Québec.
Course Materials : One or more training manuals are included with the training course.
Attestation : A certificate will be given to each student at the end of the course to attest to the successful completion of the requirements for the course.

Back to summary