

Exam Guide

Autodesk Certified Professional in Design for Manufacturing

Congratulations on taking the next step towards earning your Autodesk Certification!

The purpose of this guide is to help prepare you for the Autodesk Certified Professional in Design for Manufacturing. Please review the document carefully to better understand the requisites needed to prepare for this exam.

Please note: You will not have access to the software during the exam, as all questions are in a selected response format and are designed to be answered without the software user interface.

Candidates who successfully achieve a passing score on this certification exam demonstrate design for manufacturing skills for advance level jobs, such as a mechanical engineering technician, in a competitive professional environment.

Pre-requisites

The Autodesk Certified Professional in Design for Manufacturing exam is an advanced level certification intended for students and industry professionals who possess leading edge knowledge and skills in design for manufacture using Autodesk Fusion 360. This industry validated certification created by Autodesk is intended for Fusion 360 users who have mastered computer-aided design (CAD) for manufacturing skills, in an academic program or professional manufacturing environment, over three years, or approximately 400 hours (minimum) to 1200 hours (recommended) of software experience.

This exam covers common skills that can be applied across a wide range of engineering and design industries from aeronautics, aerospace, defense, automotive, mechanical, industrial design, manufacturing, medical, and energy fields.

We recommend candidates possess proficiency in the core Fusion 360 skills evaluated in this exam, outlined below, prior to taking this exam.

It's recommended that all candidates understand how to:

- Navigate the user interface
- Identify areas of the browser
- Transition through various environments
- Interact with general CAD file formats
- Work with a component or assembly
- Understand design requirements for sheet metal, molding, casting, subtractive and additive manufacturing
- Identify and create various planes and axes
- Create fully constrained sketches with advanced (e.g., polygon, spline) sketch entities
- Use Parameters in a sketch
- Create extrude, hole, thread, rib, web and draft features
- Use advanced feature controls for end conditions

- Create and break distributed (i.e., reference or linked) and derived designs
- Fully position assembly components and control joint limits
- Identify and isolate components and control their opacity
- Use component color cycling and color swatch
- Define sheet metal rules
- Create a sheet metal flange
- Create a sheet metal bend
- Use unfold/refold to add holes across a bend
- Create a flat pattern
- Create an exploded view animation
- Create and use named views in a design and drawing
- Create a detailed drawing title block template
- Insert a parts table and balloons into a detailed drawing
- Use symbols and notes in a detailed drawing
- Set up and control a render scene
- Use and modify component appearances
- Produce in-canvas and cloud rendered images
- Create surface bodies using extrude, revolve and patch
- Convert surfaces to solids using thicken and stitch
- Create and control form bodies
- Use form tools to insert, remove or modify edges
- Use form tools to bridge, blend and smooth a form body
- Use physical materials and measure mass properties

Resources for the exam

In order to prepare for this exam, we recommend you familiarize yourself with the following content:

- [Intro to Digital Manufacturing with Autodesk Fusion 360](#)
- [Autodesk Fusion 360 Integrated CAD/CAM/CAE](#)
- [3D Model Creation with Autodesk Fusion 360](#)
- [Engineering Design Process with Autodesk Fusion 360](#)
- [Manufacturing Process with Autodesk Fusion 360](#)

Beta Exam information

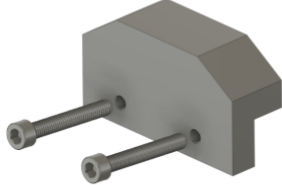
OnVUE Testing Experience: <https://home.pearsonvue.com/Test-takers/OnVUE-online-proctoring.aspx>

Total Time Required for exam: 180 minutes

Question types in the exam:

- **Multiple choice** – This item measures a candidate’s ability regarding a specific content topic. A multiple-choice item has a stem which asks a question and multiple possible answers.

Refer to the exhibit.



The part shown will be 3D printed using Fused Deposition Modelling (FDM) with ABS plastic. The M6 stainless machine screws will be fitted and removed many times. Through testing the threads appear to be failing during use when drilled and tapped directly into the plastic.

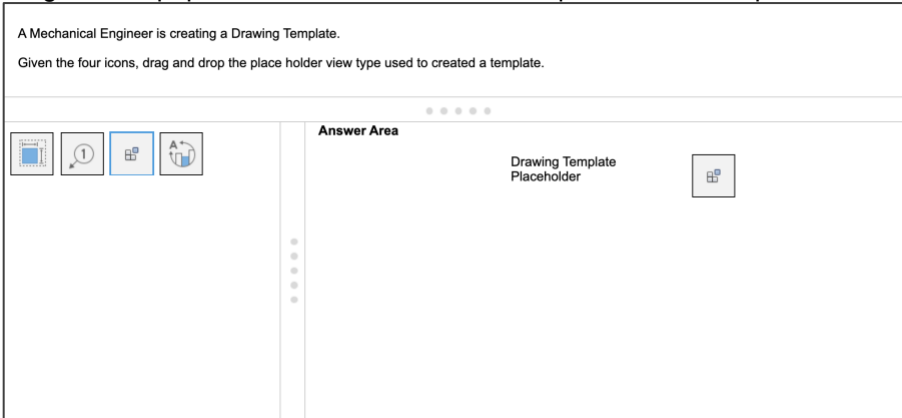
Which strategy should be used to create the threaded holes in the part to make sure they are robust and remain tight fitting?

- A) Print the part without holes, then drill and tap
- B) Redesign the part to accept captive nuts
- C) Print the threaded holes directly in the part
- D) Print the holes and tap afterwards using lubricant

- **Drag and drop** – This item measures a candidate’s object association and placement skills with a Drag-and-Drop question. Test takers select and reposition answer options within a list or graphics.

A Mechanical Engineer is creating a Drawing Template.

Given the four icons, drag and drop the place holder view type used to create a template.

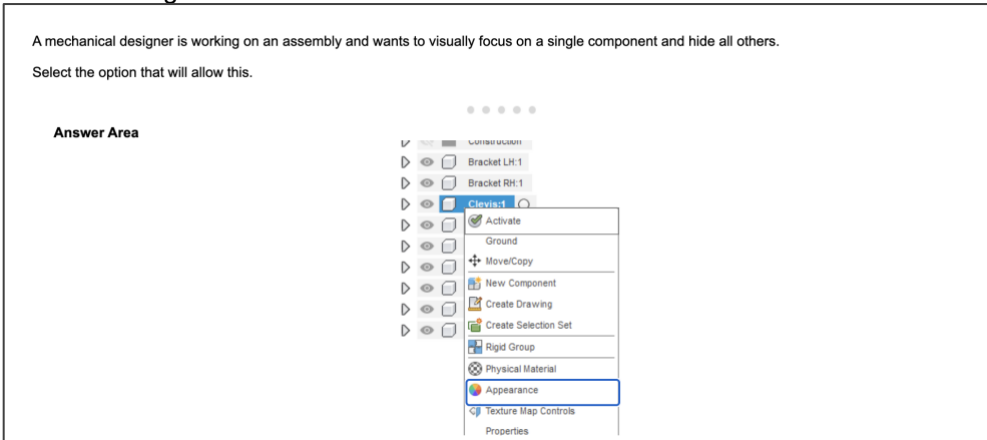


- **Active screen** – This item measures a candidate’s familiarity with the software’s UI by using interactive images of the software.

A mechanical designer is working on an assembly and wants to visually focus on a single component and hide all others.

Select the option that will allow this.

Answer Area




- **Hot Area** – This item measures the ability to answer a question by clicking on “hot” areas of an exhibit. Hot area items are essentially multiple-choice items with graphical answer choices.

A Mechanical Engineer needs to export a sheet metal component in a flattened state as a Drawing Exchange Format file.

Select the tool that should be used.

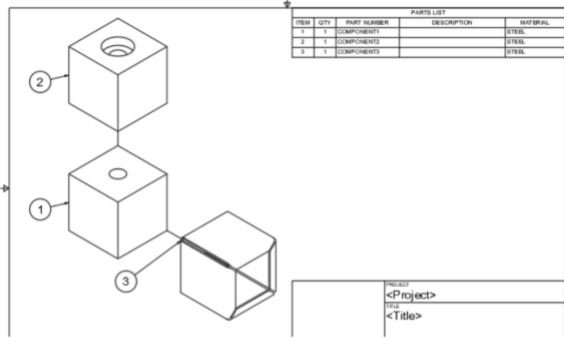
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Answer Area



- **Graphic Interpretation** – This item measures a candidate’s ability to read a graphic and interpret the information successfully.

What Drawing Template, Place Holder view - Representation is shown in the illustration below ?



ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL
1	1	COMPONENT1		STEEL
2	1	COMPONENT2		STEEL
3	1	COMPONENT3		STEEL

.....

Answer Area

Drawing Template Representation