Autodesk Certified User Exam Objectives

Fusion 360

F Fusion 360

Target Audience

The Autodesk Certified User (ACU) Fusion 360 exam is designed for an individual who has a foundational level of proficiency and hands-on experience with Fusion 360 (approximately 150 hours), has proven competency at an industry entry-level, and is ready to enter into the job market.

Candidate Description

A successful candidate for this certification is familiar with Fusion 360 features and capabilities, as well as relevant workflows, processes, and project objectives. They are competent using the core tools in the Fusion 360 Design, Render, and Drawing workspaces. They can perform basic Fusion 360 tasks related to component and assembly modeling with limited assistance from peers, product documentation, and support services. They have the ability to answer routine conceptual and applied questions about how to use Fusion 360 without referring basic questions to others. Additionally, they are able to comprehend a technical drawing and have a basic concept of drafting standards.

Prerequisites

It is expected that all candidates will have a general understanding of:

• Demonstrate proficiency with basic computer skills and digital literacy
• Apply correct industry standard terminology
• Understand the concepts associated with general technical drawing and design
• Access online and written reference materials including the help screens within Fusion 360

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Objective Domain

Some of the topics and features of the software that may be covered in the exam are listed below each objective.

Note: Within the context of this exam series, all references to "create, select, manage, etc." indicate "know how to create, select, manage, etc."

1. Workspace and Navigation

1.1 Get started

1.1.a Navigate the Data panel

    i. *File structure of project level folders,*

    ii. *Cloud organization*

    iii.*Access versions*

    iv.*Share projects*

1.1.b Orient a model view

    i. *Orbit, Zoom, Pan, and Look At*

    ii. *ViewCube*

    iii.*Set Current View options*

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1.2   Navigate the workspace and environment

1.2.a   Use the Browser

    i. *Find components (sketches, components, joints, etc.) in the Browser*

    ii. *Show or hide components*

    iii.*Rename timeline elements (features, sketches, etc.)*

1.2.b   Navigate using the toolbar

    i. *Move between workspaces, tabs, panels, and tools*

1.2.c   Set grid, units, and snaps

1.2.d   Select objects

    i. *Select all objects enclosed or crossed by a window or freeform shape*

    ii. *Select objects in the Browser (multi-select)*

    iii.*Use selection filters*

1.2.e   Use the Timeline

    i. *Accessing and editing past features*

    ii. *Roll forward and backward*

1.2.f   Adjust the visual properties of a model and design workspace

    i. *Display Settings menu (Visual Style, Environment, Camera, etc.)*

1.3   Use work features

1.3.a   Create a sketch on an origin plane or planar face

1.3.b   Create construction planes, axis, and points

    i. *Understand why it is important to use work planes*

    ii. *Offset, Tangent, Midplane, Plane at Angle, Plane by Points, Axis Through Two Points*

2.   Sketch

2.1   Create and modify a sketch

2.1.a   Select the appropriate sketch tool(s) for the task

2.1.b   Create a sketch

2.1.c   Control sketch element type and sketch display properties

    i. *Sketch Palette options (linetype, sketch grid, snap, etc.)*

2.1.d   Project geometry from an existing body onto a sketch

2.1.e   Edit a Sketch

    i. *Move, Copy, Trim, Extend, Offset, Mirror, Fillet, Chamfer, Break, and patterns*

    ii. *Insert text into an active sketch*

2.2   Apply sketch constraints and dimensions

2.2.a   Determine which sketch constraints to apply

    i. *Add and remove constraints*

    ii. *Understanding auto-constraints*

2.2.b   Apply and edit dimensions to sketch geometry

    i. *Create a fully constrained drawing*

2.2.c   Use design parameters to create a parametric model

3.   Model

3.1   Create solids from sketches

3.1.a   Create primitive shapes

    i. *Box, Sphere, Cylinder, etc.*

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3.1.b   Create a 3D shape from 2D geometry
  i. *Extrude, Revolve, Sweep, Loft, etc.*
  ii. *Join, Cut, Intersect, New Body, and New Component*

3.1.c   Create hole features
  i. *Counterbore, Countersink, Spot Face, Threads*

3.1.d   Create pattern features
  i. *Rectangular, Circular, and Pattern on Path*

3.2   Modify solids

3.2.a   Modify features
  i. *Move, Copy, Align, Scale, Fillet, Chamfer, Shell, Draft, Split, Combine, Press Pull*
  ii. *Deleting a feature*
  iii. *Altering the material properties and appearance*

3.2.b   Use the Inspect tools
  i. *Measure, Center of Mass, and Section Analysis*

3.2.c   Use the Insert tools
  i. *Canvas and decal*

3.3   Work with Forms

3.3.a   Create a form
  i. *Box, Plane, Cylinder, Quadball, etc.*

3.3.b   Modify a form
  i. *Edit Form tool (manipulating points, faces, and edges)*

4.   Assemble

4.1   Create and manage assemblies and subassemblies

4.1.a   Activate a component or subassembly to edit
  i. *Bodies and sketches*

4.1.b   Update a component to the most recent version
  i. *Use the Get Latest tool*

4.2   Create a component from a body

4.3   Align and/or position components with joints

4.3.a   Apply joints to components
  i. *Rigid, Revolute, and Slider*
  ii. *Understanding degrees of freedom and grounding*

4.3.b   Manipulate components
  i. *Move and rotate components after they have been placed into the assembly workspace*

4.3.c   Drive joints
  i. *Define the angle or distance of movement of joints*

4.4   Check for interference between components

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5. Document

5.1 Create drawings

5.1.a   Create drawing sheets

    i. *Sheet size, border, and title block*

    ii. *Multi-sheet drawings*

5.1.b   Place and edit drawing views

    i. *Base, section, detail, break, and projected views*

    ii. *Setting scale, visual style, and label visibility*

5.2 Apply dimensions and annotations

5.2.a   Add and edit dimensions

5.2.b   Add and edit annotations

    i. *Notes, center marks, center lines, balloons, leader lines, etc.*

    ii. *Create a parts list*

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