

| Industry Specific Topic | Sub-Topic | Content | Examples of Learning Objective | Reference |
|----------------------------------|--|---|--|---|
| User Interface | | | | |
| Primary Environments | | | | |
| | | Four environments: Parts, Assemblies, Presentations, and Drawings | Name the four primary environments. | Autodesk Inventor Environments |
| UI Navigation/Interaction | | | | |
| | Ribbon > Panels > Tabs | | Name the key features of the user-interface. | Ribbon |
| | Browser | | Describe the listing in the browser for an assembly file. | Browser |
| | Context (right-click menus) | | | Context Menus |
| | Menus | | | |
| | Quick Access toolbar | | Demonstrate how to add Redo to the Quick Access Toolbar | |
| Graphics Window Display | | | | |
| | Application Options > Colors | | Describe the steps required to change the background color of the graphics window. | Application Options |
| | Application Options > Display | | | Application Options |
| | Origin 3D Indicator | | Demonstrate how to turn on/off the 3D Indicator | Application Options |
| | Ribbon | | Name the key elements of the ribbon. | Display and Organize the Ribbon |
| Navigation Control | | | | |
| | ViewCube | | Describe the functionality of the ViewCube. | View Cube |
| | Navigation bar | | Describe the Navigation Bar | |
| | Function keys: F2 through F6 Pan (F2) Zoom (F3) Free Orbit (F4) Previous View (F5) Home View (F6) | | Name the navigation tools started by the F2 to F6 shortcut keys. | Keystroke reference |

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| File Management | | | | |
| | Project Files | | | |
| | | IPJ file extension | Name the file extension of a project file. | Introduction to Projects |
| | | Type of project | List the types of project files that can be created. | What are Projects? |
| | | Workspace | Define the term Workspace. | Understand Workspaces |
| | | Libraries | List the types of files stored in a library. | Use Paths in Project Files |
| | | Folder Options | List the three categories in Folder Options. | Folder Options |
| | | Active project | Describe how to set the active project. | Select a Project |
| Sketches | | | | |
| | Creating 2D Sketches | | | |
| | | IPT file extension | Name the file extension of a part file. | Autodesk Inventor file types |
| | | Templates | Describe the purpose of a template file in the sketch environment. | Part templates |
| | | Coordinate system | Describe the function of the 3D Coordinate System icon. | Application Options > Display |
| | | Sketch plane | Define a sketch plane. | Plan and create sketches |
| | | Browser display | Label the entries on the browser. | Browser Icon Reference > Sketch |

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| Sketches | | | | |
| | Draw Tools | | | |
| | | Line | Complete a 2D sketch using the appropriate draw tools. | Lines |
| | | Arc | | Arcs |
| | | Circle | | Circle command |
| | | Rectangle | | Rectangle command |
| | | Point | | Point command |
| | | Fillet | | Lines > Filleting |
| | | Polygon | | Polygons > Creating |
| | Sketch Constraints | | | |
| | | Geometric: Coincident, colinear, concentric, fixed, parallel, perpendicular, horizontal, vertical, tangent, symmetric, and equal. | List the available geometric constraints. | Constraint Tools |
| | | Dimensional: General and automatic dimensions | Describe parametric dimensions. | Sketch Dimensions |
| | | Show constraints | Describe how to control the visibility of constraints. | View and Delete |
| | | Fully constrained sketches | Describe the degrees of freedom on a sketch and how they can be displayed. | Fully Constrained Sketches |
| | Pattern Sketches | | | |
| | | Rectangular, circular, and rotate. | Demonstrate how to pattern a sketch. | Sketch patterns |

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| Sketches | | | | |
| | Modify Sketches | | | |
| | | Move | Demonstrate how to move a sketch. | Move Sketch Geometry |
| | | Copy | Demonstrate how to copy a sketch. | Sketches > Copying |
| | | Rotate | Demonstrate how to rotate a sketch. | Rotate Sketch Geometry |
| | | Trim | Demonstrate how to trim a sketch. | Trim 2D Curves |
| | | Extend | Demonstrate how to extend a sketch. | Extend 2D Curves |
| | | Offset | Demonstrate how to offset a sketch. | Offset Ellipse |
| | Format Sketches | | | |
| | | Modify linetype and driven dimensions. | Describe how to format sketch linetypes. | Linetypes > Sketch Geometry and |
| | | Driven dimensions. | Discuss over constrained sketches. | Driven dimension |
| | Sketch Doctor | | | |
| | | Fix errors in sketches | Examine a sketch for errors. | Sketch Doctor |
| | Shared Sketches | | | |
| | | Sharing sketch geometry | Describe the function of a shared sketch. | Share sketch |
| | Sketch Parameters | | | |
| | | Assign parameters | Describe how parameters define the size and shape of features | Parameters > About |

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| Parts | | | | |
| | Creating Parts | | | |
| | | IPT file extension | Name the file extension of a part file. | Autodesk Inventor file types |
| | | Part browser display | Label the entries on the browser. | Browser > Part browser |
| | | Base features | Define a base feature. | Glossary > Base Feature |
| | | Unconsumed sketches | Define an unconsumed sketch. | Sketches > Consumed |
| | | Sketched features > Extrude | Demonstrate how to create an extruded part | Extrude |
| | | Sketched features > Revolve | Demonstrate how to create an revolved part | Revolve |
| | | Sketched features > Sweep | Demonstrate how to create an lofted part | Sweep |
| | | Sketched features > Loft | Demonstrate how to create an lofted part | Create loft |
| | | Termination methods | Describe the termination options for a feature. | Termination > Features |
| | | Placed features > Hole | Demonstrate how to create a hole feature | Hole |
| | | Placed features > Fillet | Demonstrate how to create a fillet feature | Fillet |
| | | Placed features > Chamfer | Demonstrate how to create a chamfer feature | Chamfer |
| | | Placed features > Shell | Demonstrate how to create a shell feature | Create shell |
| | | Placed features > Thread | Demonstrate how to create a thread feature | Threads > about |
| | Work Features | | | |
| | | Work plane, point, and axis | Describe the use of work features in the part creation work flow. | Work features > about |

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| Parts | | | | |
| | Pattern Features | | | |
| | | Rectangular | Demonstrate how to create a rectangular pattern | Rectangular |
| | | Circular | Demonstrate how to create a circular pattern | Circular |
| | | Mirror | Demonstrate how to mirror features | Mirror |
| | Part Properties | | | |
| | | iProperties: Summary, Project, and Physical tabs | Describe part properties and how they are applied. | Properties > iProperties |
| Assemblies | | | | |
| | Creating Assemblies | | | |
| | | IAM file extension | Name the file extension of an assembly file. | Autodesk Inventor file types |
| | | Assembly browser display | Label the entries on the browser. | Browsers > assembly browser |
| | | Degrees of freedom | Name the six degrees of freedom on a component. | Degrees of freedom |
| | | Place parts in an assembly | Demonstrate how to place a part in an assembly. | Placing > components in assemblies |
| | | Grounded part | Discuss degrees of freedom and a grounded part. | Grounded components |
| | | Assembly constraints | Demonstrate how to apply various assembly constraints. | Assemblies - Constraints |
| | | Top down, bottom-up, and middle-out design. | Describe the various assembly environment techniques. | Top-down design |
| | | Create new part in-place | Demonstrate how to create a new part in the assembly environment. | Assemblies > creating parts in |
| | | Place from Content Center | Demonstrate how to place a Content Center part in an assembly. | Content Center > placing parts |

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| Assemblies | | | | |
| | Viewing Assemblies | | | |
| | | Representations | Label the entries on the browser. | Browsers > Representation browser |
| | Animation Assemblies | | | |
| | | Drive Constraints | Demonstrate how to animate an assembly using drive constraints. | Drive constraint |
| | Adaptive Features, Parts, and Subassemblies | | | |
| | Designate models as adaptive | Demonstrate how to make and use an adaptive part. | Adaptivity > about | |
| Presentations | | | | |
| | Creating Presentations | | | |
| | | IPN file extension | Name the file extension of a presentation file. | Autodesk Inventor file types |
| | | Presentation browser display | Label the entries on the browser. | Browsers > presentation browser |
| | | Uses for presentation views | Discuss the various uses of Presentation files. | Presentations > about |
| | | Apply tweaks to parts | Demonstrate how to apply tweaks to a part. | Work with tweaks and trails |
| | | Display trails | Demonstrate how to apply trails to a part. | Trails > displaying |
| | Animating the view | Demonstrate how to animate an assembly. | Animate with an exploded view | |

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| Drawings | | | | |
| | Creating Drawings | | | |
| | | IDW file extension | Name the file extension of a drawing file. | Autodesk Inventor file types |
| | | Drawing templates | Describe the use of template files. | Drawings > templates |
| | | Drawing browser display | Label the entries on the browser. | Browsers > drawing browser |
| | | Drawing Resources | Describe the content within Drawing Resources. | Drawings > templates |
| | | Part drawings | Demonstrate how to create a part drawing. | Base view |
| | | Assembly drawings | Demonstrate how to create an assembly drawing. | Projected view |
| | | Annotation | Describe the various annotation options. | Annotations > drawing views and |
| | | Balloons | Demonstrate how to add balloons to an assembly. | Projected view |
| | | Parts list | Demonstrate how to add balloons to an assembly. | Parts list |
| Sheet Metal | | | | |
| | Creating Sheet Metal Parts | | | |
| | | IPT file extension | Name the file extension of a sheet metal part file. | Autodesk Inventor file types |
| | | Sheet metal defaults | Discuss the use of sheet metal defaults. | Sheet Metal Default dialog box |
| | | Create tools > Bend | Demonstrate the creation of a sheet metal bend | Bend |
| | | Create tools > Face | Demonstrate the creation of a sheet metal bend | Face |
| | | Create tools > Flange | Demonstrate the creation of a sheet metal bend | Flange |

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| Sheet Metal | | | | |
| | Modify Sheet Metal Parts | | | |
| | | Modify tools > Corner seam | Demonstrate the creation of a corner seam | Corner seam |
| | | Modify tools > Punch tools | Demonstrate the creation of a punch tool | Sheet Metal > Punch tool |
| | | Modify tools > Cut | Demonstrate the creation of a cut across a bend | Cut across a bend |
| | Flat Pattern | | | |
| | | Create a flat pattern | Demonstrate how to create a flat pattern. | Sheet metal > flat pattern |
| | | Using a flat pattern in a drawing | Demonstrate how to insert a flat pattern in a drawing. | Flat patterns > about |
| | | Export a flat pattern | Demonstrate how to export a flat pattern. | Flat patterns > exporting |
| | Visualization | | | |
| | Create Rendered Images | | | |
| | | Access the Inventor Studio environment | Describe the process to activate Inventor Studio. | Inventor Studio > Studio scene browser |
| | | Create a new camera. | Demonstrate how to create a new camera. | Cameras > creating |
| | | Render Image | Demonstrate how to create a rendered image. | Render Image dialog box |
| | Animate an Assembly | | | |
| | | Create a new animation. | Demonstrate how to create a new animation. | Animations > about |
| | | Animate a camera. | Demonstrate how to create an animation by animating a camera. | Cameras > animation settings |
| | | Animate a constraint. | Demonstrate how to create an animation by animating a constraint. | Animate Constraints dialog box |
| | | Animate a fade. | Demonstrate how to create an animation by animating a fade. | Animate Fade dialog box |