



Design and Manufacturing

Educator Guide to curriculum and certification

Helping educators integrate Autodesk Learning into existing curriculum and classroom experiences

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How to use this guide

Use this guide to bring Autodesk Learning into your existing curriculum and create learning experiences that support your course goals and your students' success.

- Translate Autodesk Learning resources into classroom-ready learning experiences.
- Map relevant learning content directly to your courses, assignments, and learning objectives.
- Explore different content types—courses, projects, collections, and more—and bookmark resources or organize them into shareable playlists.
- Build learning pathways that help students develop skills and prepare for Autodesk certifications.

Components of this guide

- 01 Types of learning resources
- 02 Curriculum connections
- 03 Classroom-ready projects
- 04 Classroom implementation examples
- 05 Discover and use Autodesk Learning
- 06 Certification pathways



Types of learning resources

Explore Autodesk learning resource types and recommended classroom uses.

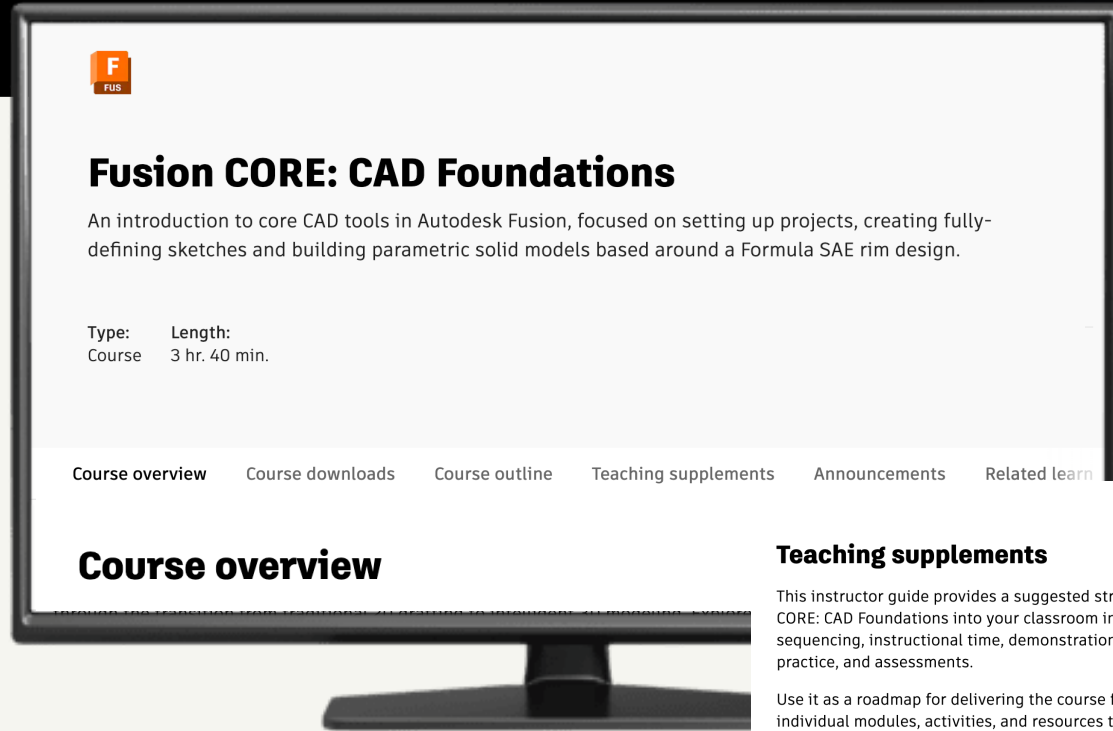


Explore Autodesk learning content types

Content type	What's included	Best for	Typical time
Full course	Structured, multi-module learning with datasets, practice, challenges, assessments, and a course certification.	Semester or multi-week	2-15 hrs
Module	Focused instruction on a single topic or workflow, typically including video and knowledge checks.	Single lesson. Independent review or in-class presentation	15-60 min
Practice exercise	Guided hands-on activities that reinforce a workflow, with a dataset.	Homework or lab. Skills practice.	10-30 min
Challenge exercise	Independent activity applying skills to solve a defined challenge.	Graded assignment. Independent or in-class.	20-60 min
Projects	Real-world project applying multiple skills with a provided dataset.	Capstone project. Portfolio.	60-120 min
Course assessment	Multiple choice quiz-style, knowledge-check assessment.	Final review assessment	15-30 min
Cert prep course	Structured preparation for a certification exam.	Review and cert prep	4-10 hrs
Practice test	Multiple choice exam-style assessment used to measure certification readiness	Mock exam or final review	2 hrs

Full course

A complete teaching solution



Course overview

Teaching supplements

This instructor guide provides a suggested structure for integrating Fusion CORE: CAD Foundations into your classroom instruction, including module sequencing, instructional time, demonstrations, hands-on activities, practice, and assessments.

Use it as a roadmap for delivering the course from start to finish, or select individual modules, activities, and resources to supplement an existing curriculum.

The suggested timing and structure are flexible and can be adapted to fit your students, schedule, and learning objectives.

Download teaching supplements:

260827_CORE-CAD_Instructor-guide.pdf - (172 kb)

Teaching Supplements

- Lecture Slides
- Instructor Guide
- Grading Rubrics



Best for: Semester curriculum, flipped classroom



Time: 2-15 hrs



Includes: Modules with instructional videos, datasets, practices, challenges, assessments, and teaching supplements.



Outcome: Autodesk course completion certificate.

Module

A focused learning experience that teaches one topic or workflow



Best for: One classroom lesson, homework, skill review, or part of a curated playlist



Time: 15 min – 1 hour



Includes: Instructional videos, knowledge checks, dataset to follow along.



Outcome: Completion check mark, no certificate.

Projects, practice exercises, and challenges

Hands-on learning that helps students apply what they learn

Includes datasets and teacher supplements

Project



Time: 1-2 hours



Text format: Scenario, instructions, design criteria, what to submit

Best for: Capstone or portfolio artifact

Exercise duration: ~120 minutes

Project challenge exercise: Create a custom pen body

The challenge: Modify a pen body design to reduce the back length detail.

Open the supplied dataset **CAM Turning Pen Assembly.f3d**. Create a copy or derive of the pen body to isolate a version for additional details. Use CAD tools to create a unique pen body by adding details that can be created on a lathe. The internal features for a G2 pen insert stop short of the rear most threads and any additional length or detail on the pen is purely cosmetic. Play around using CAD tools to change the back side of the pen body design to either shorten or change it. Once modified create all toolpaths required to machine this new version of the pen body design.

If your pen body exists in the same design as your toolpaths for the original, explore copying toolpaths to a new setup for your custom pen body. Copied toolpaths can simplify the setup and programming time required for variations of parts. Once you have toolpaths to completely machine the custom pen body validate them through simulation before post processing and documentation.

Complete the required activities:

- Copy or derive a pen body.
- Use CAD tools to add unique details.
- Create CNC turning toolpaths to machine the body.
- Create G-code and documentation for pen body.

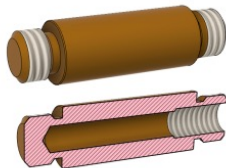


Figure 1. Custom pen body.

Practice Exercise



Time: 10-30 min



Text format: Step-by-step with instructions and images

Best for: Homework or lab

Exercise duration: ~15 minutes

Project practice exercise: Split faces for appearances

Change the appearance of a split face of a design.

Learning objectives:

- Create a sketch.
- Use Split Face.
- Apply appearances to a single face.
- Create a rendered image



The completed exercise

1. Open the supplied dataset **Form Car Body Concept - Sample.f3d**.



Figure 1. Uploaded design.

2. Create a sketch on the XZ plane using lines, arcs, or splines to divide an area of the car body for appearances.



Figure 2. Side view sketch

Challenge



Time: 20-60 min



Text format: Activity instructions, design criteria, what to submit

Best for: Applied Assignment

Exercise duration: ~45 min

Challenge exercise

Machine a variation of the wallet

Now that you have completed the steps to machine the example wallet, you must create setups and operations to machine a variation of the original design. A new SVG and alternate text need to be added to the Wallet. Use the supplied Fusion file **Wallet_Challenge Exercise.f3d**. Study the prompts in this document as you work to complete the challenge.

Complete the required activities:

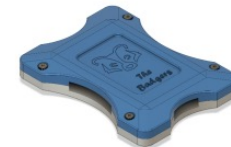
- Select and apply machining operations.
- Simulate operations to verify valid toolpaths.
- Create necessary setup sheet(s).
- Post an NC program.

Success criteria:

- A valid stock size is identified and WCS location(s) supports an available method for zeroing machine coordinates.
- Machining operation options are configured so that efficient toolpaths are generated.
- Machining operations result in desirable surface finishes according to the use and application of the product.

Constraints:

- Speeds and feeds must be appropriate for aluminum, or the material your instructor identifies.
- Total machine run time must be less than 40 minutes, not including setup and zeroing.
- Heights, rapid rates, position in machine work envelope, and post processor selection must be compatible with the machine available to you.



Assessments and certification preparation

Exam-style assessments designed to measure certification readiness and identify remaining learning gaps

Video quizzes and course assessments



Time: 2-30 min



Best for: Knowledge check of skills

Final test

Required for course completion
10 questions

What is the sketch constraint icon for midpoint?
(Select one)

☐ Square.

☐ Circle.

☐ Two circles.

☐ Triangle.

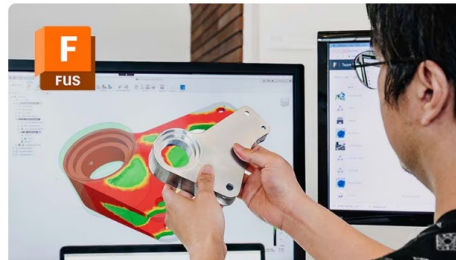
Cert prep course



Time: 4-10 hrs



Best for: Prep for certification test



AUTODESK CERTIFIED ASSOCIATE

CAD for Mechanical Design with Autodesk Fusion

Use your CAD skills and knowledge of rapid prototyping methods to earn your certification in CAD for mechanical design using Autodesk Fusion.

[View certification details](#)

Associate | 90 min exam

Practice test



Time: 2 hrs



Best for: Measure cert readiness

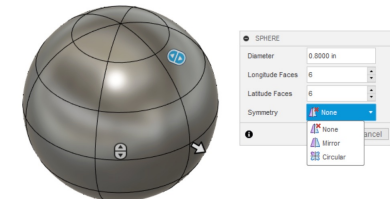
Start your practice test

Ready to test your knowledge? Pass this required test with a score of 75% or more to complete the course.

CAD for Mechanical Design Associate Certification Prep practice test

Required for course completion
46 questions

Refer to exhibit.



When creating a primitive sphere form, which setting ensures edits after the form is made apply identical changes on two opposite sides of the model?
(Select one)

☐ An odd number of faces

☐ Mirror symmetry

☐ An even number of faces

☐ Circular symmetry

Playlists let you Combine, Customize, and Assign

Every classroom is different. Playlists make it work

My list

ME 101: Intro to CAD

Fall 2026

< Share list Edit list details Delete list

8 items

Click and drag to re-order list items

Update to allow list sharing

☐ Private List Your list is automatically set to Private. Toggle off Private to share the list with Autodesk account holders.

Cancel Save

- Introduction to design intent in Fusion**
Module | 13 min.
- Set up a project and members**
Module | 10 min.
- Sketching and Part Modeling**
In Progress | Course | 2 hr. 35 min.
- Practice exercise: Create a fully defined sketch**
Module | 10 min.
- Challenge exercise: Create a fully defined parametric sketch**
Completed | Module | 15 min.



Choose

Select the right assets for your learning goal



Combine

Build a playlist that fits your course and timeline



Assign

Share with students in Autodesk Learning



Measure

Students track process with course completions

Watch this video to discover how to create a Playlist and share it: <https://www.autodesk.com/learn/ondemand/tutorial/Discover%20Autodesk%20Learning>

Curriculum connections



Find Autodesk Learning resources that align with the courses you teach.

 **AUTODESK**

Mechanical design and engineering learning content

Mapping Autodesk learning content to core academic courses

Academic course title/topic	Recommended learning content with links
Computer-Aided Engineering (CAE) Intro to CAD/CAE	Learn Fusion CAD in 90 minutes Sketching & Part Modeling Assembly Modeling Drawing Rendering Animation Static Stress Simulation Introduction to 3D modeling Introduction to Design for Manufacturing Simulation Analysis Studies Simulation Applications for Static Stress Analysis Simulation for Static Stress Analysis Professional Certification Prep
Advanced CAD/CAE Engineering Design Optimization	Generative Design Generative Design for Manufacturing Applications Introduction to Generative Design for Manufacturing Generative Design for Manufacturing Expert Certification Prep
Fundamentals of PCB Design Printed Circuit Board Design Electronic System Design	Electronic Design Project Electronics design

Mechanical design and engineering learning content

Mapping Autodesk learning content to core academic courses.

Academic course title/topic	Recommended learning content with links
Intro to CAD Intro to Engineering Intro to 3D Modeling	Learn Fusion CAD in 90 minutes Sketching & Part Modeling Assembly Modeling Drawing Rendering Static Stress Simulation Introduction to 3D modeling Introduction to Design for Manufacturing CAD for Mechanical Design Associate Certification Prep
Design for Manufacturing Product Design & Manufacturing	Learn Fusion CAD in 90 minutes Sketching & Part Modeling Assembly Modeling Drawing Free-form modeling Surface modeling Animation Rendering Static Stress Simulation CAM 2.5/3axis milling CAM and Design for Manufacturing for Milling Introduction to Modeling and Design for Manufacturing Design for Manufacturing Professional Certification Prep

Advanced manufacturing learning content

Mapping Autodesk learning content to core academic courses.

Academic course title/topic	Recommended learning content with links
Intro to CNC Machining Intro to CAD/CAM CNC Machining & Programming	CAM: 2.5/3 axis milling Learn Fusion CAM in 90 minutes (imperial) / Learn Fusion CAM in 90 minutes (metric) Introduction to CAD, CAM, and Practical CNC Machining for Milling Introduction to CAD and CAM for Milling and Turning CAM for 2.5 Axis Milling Associate Certification Prep
Intro to CNC Machining Intro to CAD/CAM CNC Machining & Programming	Course 1 - Haas and Autodesk Fusion - Blueprints, CAD, CAM, and CNC Course 2 - Haas and Autodesk Fusion - CAD, CAM, and Part Programming Course 3 - Haas and Autodesk Fusion - Drafting, Soft Jaw Design, and Programming Course 4 - Haas and Autodesk Fusion - Machined Part Finishing and Inspection
CNC Mill & Lathe Programming Intro to CNC Machining	CAM Lathe Creating Toolpaths for a CNC Lathe CAM Strategies for Turning CAM for Turning Associate Certification Prep
Digital Fabrication Additive Manufacturing	CAM Additive Manufacturing CAM Laser Cutting
CNC Milling & Programming Machining Processes II	CNC Toolpaths for 3 Axis Milling CAM Strategies for 3 Axis Milling CAM for 3-Axis Milling Professional Certification Prep
Multi-Axis Machining & Programming Advanced CNC Machining	CAM Multi-axis CNC Toolpaths for Multi-Axis Milling CAM Strategies for Multi-Axis Milling CAM for Multi-Axis Milling Expert Certification Prep

Collections: Curated learning for your curriculum

Browse grouped Autodesk Learning resources—including courses, modules, and projects—organized around common Design and Manufacturing topics.

Access Collections through the [Autodesk Education website](#).

Product design and manufacturing curriculum

Introduction to CAD

[Learn more](#)

Introduction to CNC machining

[Learn more](#)

Fusion & Haas - CAD, CAM, and CNC for 2.5 axis milling

[Learn more](#)

Finite element analysis

[Learn more](#)

Introduction to engineering design

[Learn more](#)

Introduction to CAD/CAM

[Learn more](#)

Introduction to engineering

[Learn more](#)

Electronics design

[Learn more](#)

Computer-aided manufacturing

[Learn more](#)

Multi-axis machining

[Learn more](#)

Design for manufacturing

[Learn more](#)

ASME & Autodesk - Industry 4.0 skills for the future of manufacturing

[Learn more](#)

Collections for design and manufacturing

Curated grouping of related learning experiences.

Collection	Description
Introduction to CAD	Includes all CAD for mechanical design instruction
Introduction to Engineering	Includes all CAD for mechanical design instruction
Introduction to Engineering Design	Includes all CAD for mechanical design instruction.
Design for manufacturing	Includes all design for manufacturing instruction
Introduction to CNC Machining	Includes all CAD/CAM instruction from turning to 2.5 axis milling
Introduction to CAD/CAM	Includes all CAD/CAM instruction from turning to multi-axis machining
Haas and Autodesk Fusion – CAD, CAM, and CNC for 2.5 axis milling	Includes all Haas-Autodesk co-developed courses offering complete CAD, CAM and CNC instruction for 2.5 milling
Mult-axis machining	Includes all multi-axis milling instruction
CAD Classroom-Ready Projects	Includes all CAD projects from design to 3D printing
CAD/CAM & CNC Classroom-Ready Projects	Includes all CAD/CAM and CNC projects from turning through multi-axis machining

Collections for design and manufacturing

Curated grouping of related learning experiences.

Collection	Description
Computer-aided Manufacturing	Includes all CAM instruction
Finite element analysis	Includes all simulation and generative design instruction
Electronics Design	Includes all electronics design instruction.
AI for education	Includes courses designed to help educators connect AI theory to authentic engineering practice
ASME and Autodesk – Industry 4.0 skills for the future of manufacturing	Includes all Autodesk and ASME co-developed Industry 4.0 courses

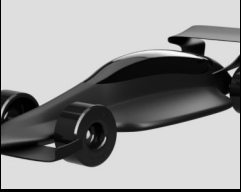
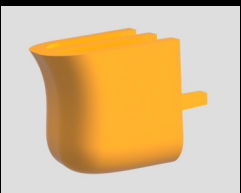
Classroom- ready projects

Explore hands-on projects designed to reinforce course concepts and build applied skills.

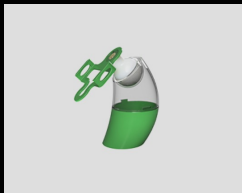
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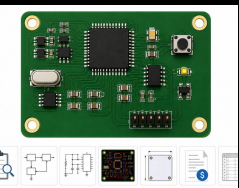
Fusion CAD: Mechanical Design Projects

Project		What students build	Key skills	Estimated time
	<u>Create a concept model using freeform modeling</u>	Create a Co2 concept car body rendering	Design review, Form Modeling, Rendering	4 hr.
	<u>Design products using freeform modeling</u>	Create a second life laundry detergent bottle	Form Modeling from Reference Images, Material Usage Analysis, Rendering & Decal Application	5 hr. 30 min.
	<u>Design a mechanical assembly</u>	Redesign a portion of a reciprocating saw assembly	Assembly Review, Spur Gear Design, Assembly Joints & Motion Validation	2 hr. 30 min.
	<u>Design for Injection Molding</u>	Design a custom power tool trigger for injection molding.	Detailed Solid Modeling, Draft Features, Draft Analysis	3 hr.

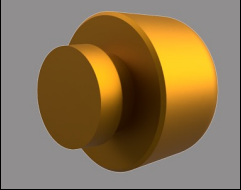
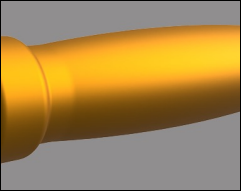
Fusion CAD: Design for 3D Printing Projects

Project		What students build	Key skills	Estimated time
	<u>Design and 3D print a caliper case insert</u>	Design and prototype a custom insert that secures a dial caliper in its case	Parametric Solid Modeling , Fillet & Interference Analysis,3D Print Preparation	1hr. 45 min.
	<u>Design and 3D print a device stand</u>	Design a phone device stand with an attractive organic shape	Parametric Solid Modeling, Snap-Fit & Assembly Design, 3D Print Preparation	2 hr.
	<u>Design and 3D print a water filter</u>	Design and prototype a water filter	Parametric Modeling, Threads, Joints & Assembly Design, Component Integration & 3D Print	2 hr. 30 min.
	<u>Design a model for 3D printing</u>	Develop a drone chassis, camera mount & landing gear that can be 3D printed.	Drone Chassis &Component Modeling, Mass Properties Review, Design Validation	4 hr.

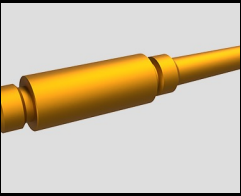
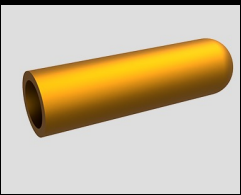
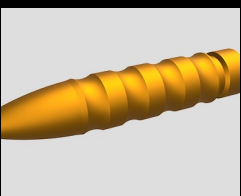
Fusion: Laser cutting & Electronics Design Projects

Project		What students build	Key skills	Estimated time
	<u>Design a storage bin using CAD</u>	Design a functional storage bin that can be customized and assembled.	Assembly Design, Patterns, Materials & Appearances, DXF & Kerf Compensation for Fabrication	2 hr.
	<u>Manufacture a storage bin using CAM</u>	Manufacture a storage bin that can be laser cut, waterjet cut or made using a CNC router.	Manufacturing Setup, DXF-based Part Programming, 2D Machining & Kerf Strategies	2 hr.
	<u>Electronics design</u>	Create a PCB design with connectors, transistors, voltage regulator, and an LED.	Electronic Schematic Design, PCB Layout & Board Design , BOM & Manufacturing Preparation	3 hr.

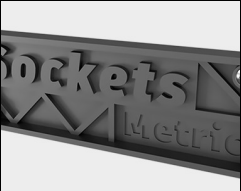
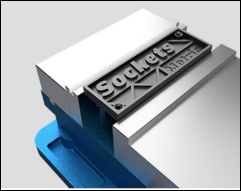
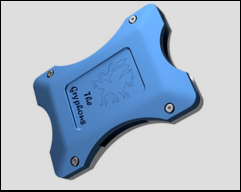
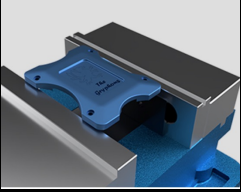
Fusion CAM Turning: Chip Hook

Project		What students build	Key skills	Estimated time
	<u>Make a chip hook cap</u>	Machine a custom chip hook to clear chip nests from your CNC machine.	CAM Setup , Create the turning, drilling, boring, and parting lathe toolpaths Validate & Post Process	4 hr.
	<u>Make a chip hook handle</u>	Machine a custom chip hook to clear chip nests from your CNC machine	Blueprint Review, CAM Setup , Thread Toolpath Creation & Modification,)Validate & Post Process	5 hr.

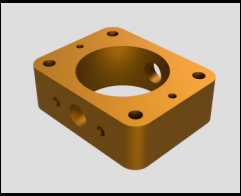
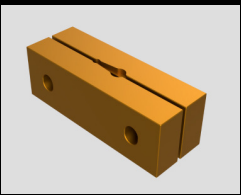
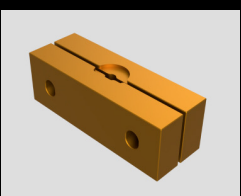
Fusion CAM Turning: Custom G2 Pen

Project		What students build	Key skills	Estimated time
	<u>Make a custom pen body</u>	Create a pen body to be used in a custom pen design using a G2 pen ink insert.	Blueprint Review, CAM Setup , Thread Toolpath Creation & Modification,)Validate & Post Process	5 hr.
	<u>Make a custom pen cap</u>	Create a pen cap will be used in a custom pen design using a G2 pen ink insert.	Blueprint Review, CAM Setup , Thread Toolpath Creation & Modification,)Validate & Post Process	4. hr.
	<u>Make a custom pen tip</u>	Create a pen tip will be used in a custom pen design using a G2 pen ink insert.	Blueprint Review, CAM Setup , Thread Toolpath Creation & Modification,)Validate & Post Process	5 hr.

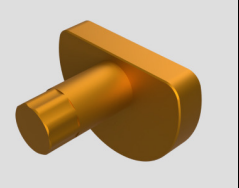
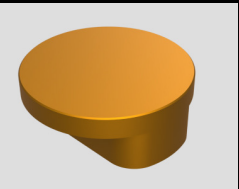
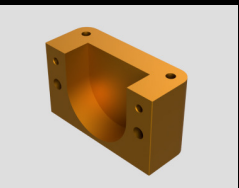
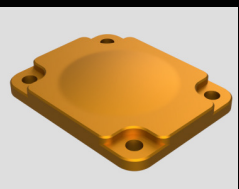
Fusion CAD/CAM 2.5 axis: 3D Label/Sign & Wallet

Project		What students build	Key skills	Estimated time
	<u>Design a 3D label using CAD</u>	Design a custom 3D name plate	Sketching & Constraints, Extrude & Emboss Text, Apply materials, Holes & Fasteners	2 hr
	<u>Manufacture a 3D label using CAM</u>	Manufacture a custom 3D name plate using a 2.5 axis CNC mill.	CAM Setup & Tool Libraries, 2.5 axis Toolpath Generation, CNC Post Processing	2 hr.
	<u>Design a wallet using CAD</u>	Design a personalized wallet	Parametric Solid Modeling Fillets, Chamfers, Holes & Threads Embossing, Exploded Views & Drawings	1 hr. 45 min.
	<u>Manufacture a wallet using CAM</u>	Manufacture a personalized wallet	Multi-Setup CAM, Tool Libraries & Tool Settings, Fixturing & Work Coordinate Setup (WCS)	1 hr. 30 min.

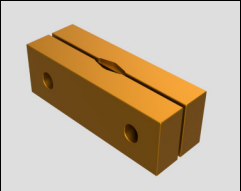
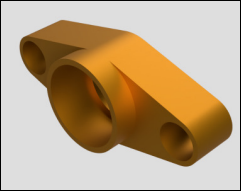
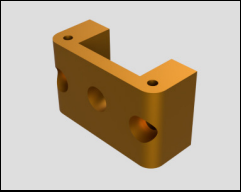
Fusion CAD/CAM 2.5 axis: Model Engine Assembly

Project		What students build	Key skills	Estimated time
	<u>Project 01: Make a model engine cylinder</u>	Design and manufacture the engine cylinder	3D Modeling to dimensions, Tool Library & CAM Setup Toolpath Creation, Simulation, Documentation	3 hr.
	<u>Project 02: Make a model engine rod soft jaw</u>	Design and manufacture the engine rod soft jaw	3D Modeling to dimensions, Tool Library & CAM Setup Toolpath Creation, Simulation, Documentation	3 hr.
	<u>Project 03: Make a model engine rod</u>	Design and manufacture the engine rod	3D Modeling to dimensions, Tool Library & CAM Setup Toolpath Creation, Simulation, Documentation	3 hr.
	<u>Project 04: Make a model engine crank soft jaw</u>	Design and manufacture the engine crank soft jaw	3D Modeling to dimensions, Tool Library & CAM Setup Toolpath Creation, Simulation, Documentation	3 hr.

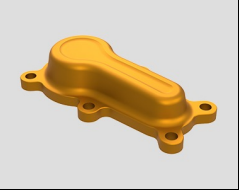
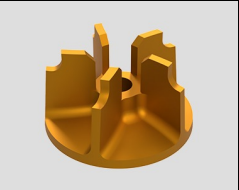
Fusion CAD/CAM 2.5 axis: Model Engine Assembly

Project		What students build	Key skills	Estimated time
	<u>Project 05: Make a model engine crank</u>	Design and manufacture the engine crank	3D Modeling to dimensions, Tool Library & CAM Setup Toolpath Creation, Simulation, Documentation	3 hr.
	<u>Project 06: Make a model engine piston</u>	Design and manufacture the engine piston	3D Modeling to dimensions, Tool Library & CAM Setup Toolpath Creation, Simulation, Documentation	3 hr.
	<u>Project 07: Make a model engine left case</u>	Design and manufacture the engine left case	3D Modeling to dimensions, Tool Library & CAM Setup Toolpath Creation, Simulation, Documentation	3 hr.
	<u>Project 08: Make a model engine cylinder head</u>	Design and manufacture engine cylinder head	3D Modeling to dimensions, Tool Library & CAM Setup Toolpath Creation, Simulation, Documentation	3 hr.

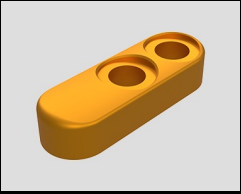
Fusion CAD/CAM 2.5 axis: Model Engine Assembly

Project		What students build	Key skills	Estimated time
	<u>Project 09: Make a model engine cylinder flange soft jaw</u>	Design and manufacture the engine cylinder head soft jaw	3D Modeling to dimensions, Tool Library & CAM Setup Toolpath Creation, Simulation, Documentation	3 hr.
	<u>Project 10: Make a model engine cylinder flange</u>	Design and manufacture the engine cylinder flange	3D Modeling to dimensions, Tool Library & CAM Setup Toolpath Creation, Simulation, Documentation	3 hr.
	<u>Project 11: Make a model engine right case</u>	Redesign a model engine assembly and to machine a prototype	3D Modeling to dimensions, Tool Library & CAM Setup Toolpath Creation, Simulation, Documentation	3 hr.

Fusion CAM 3 axis: Powersports Water Pump

Project		What students build	Key skills	Estimated time
	<u>Make a water pump base plate</u>	Create the base plate of a concept powersports water pump	Blueprint Review, CAM Setup, 2D Contour & Tabs, Toolpath Validation, G-code Generation & Review	4 hr.
	<u>Make a water pump housing</u>	Create the housing for a concept powersports water pump	Blueprint Review, CAM Setup, 3D Contour & Face Selection, Toolpath Creation, Post Process	4 hr.
	<u>Make a water pump impeller</u>	Create the base plate of a concept powersports water pump	Blueprint Review, CAM Setup, Multiple Toolpath Creation, Tool Orientation, Validation, Post Process	4 hr.

Fusion CAM 3 axis: Motorcycle Suspension Linkage

Project		What students build	Key skills	Estimated time
	<u>Make a motorcycle suspension flip chip</u>	Create the flip chip of a concept motorcycle suspension linkage system	Blueprint Review, CAM Setup, 2D Trace & Contour Toolpaths, Linear Toolpath Patterns, Validate/ Post	4 hr.
	<u>Make a motorcycle suspension lefthand link</u>	Create the the lefthand linkage of a concept motorcycle suspension linkage system.	Blueprint Review & CAM Setup, 3D Flat & Rest Machining, Tool Orientation Simulation & Post	4 hr.
	<u>Make a motorcycle suspension righthand link</u>	Create the the righthand linkage of a concept motorcycle suspension linkage system.	Blueprint Review & CAM Setup, 3D Flat & Rest Machining, Tool Orientation Simulation & Post	4 hr.

Classroom implementation examples



Explore use cases that show how Autodesk Learning resources can support different course topics and learning goals.

 **AUTODESK**

Use case: CAD for Mechanical Design

Match mechanical design classroom topics with Fusion learning content.

Discovery



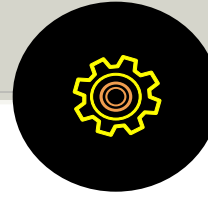
- ☐ Do students currently create 2D sketches and 3D mechanical parts?
- ☐ Do they learn how parts come together in assemblies?
- ☐ Do students create engineering drawings to communicate design intent??
- ☐ **Explore:** Core CAD workflows for mechanical design in Fusion, including sketching, part modeling, assemblies, joints, and drawings

Review content



- ☐ Review [Learn Fusion CAD in 90 Minutes](#) course and [CAD projects](#).
- ☐ Review modules covering sketching and constraints, 3D part modeling, assemblies and joints, and technical drawings.
- ☐ Review practice exercises, challenge activities, course resources, and the instructor guide to identify what fits the class.

Save & organize



- ☐ Add the full course or selected modules to a List based on the skills being taught.
- ☐ Combine course modules with practice or challenge activities to support classroom demonstrations, lab work, or independent practice.
- ☐ Use Bookmark and Plus icons to save and organize content.

Send



- ☐ Share the saved List URL with students for in-class activities, homework, or self-paced learning.

Use CAD: **CAD/CAM & CNC**

Match CAD/CAM topics with Fusion learning content.

Discovery



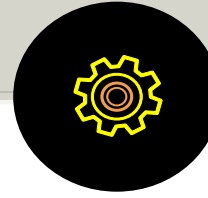
- ☐ Do students learn 2D and 2.5-axis milling workflows?
- ☐ How far do students progress from basic toolpaths to complete machined parts?
- ☐ Do students learn setup, tool selection, simulation, and post processing?
- ☐ **Explore:** Learn Fusion CAM in 90 Minutes for foundational milling workflows.

Review content



- ☐ Review Learn [Fusion CAM in 90 Minutes course](#) and [CAM projects](#).
- ☐ Review modules covering CAM setup, tool selection, 2D/2.5-axis toolpaths, simulation, and post processing.
- ☐ Review practice exercises, challenge activities, course resources, and the instructor guide to identify what fits the class.

Save & organize



- ☐ Add the full course or selected modules to a List based on the skills being taught.
- ☐ Combine course modules with practice or challenge activities to support classroom demonstrations, lab work, or independent practice.
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- ☐ Share the saved List URL with students for in-class activities, homework, or self-paced learning.

Use case: Static Stress Simulation

Connect engineering analysis topics with Fusion simulation content.

Discovery



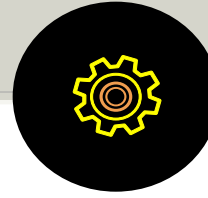
- ❑ Do students evaluate whether a design will perform as intended?
- ❑ Are students introduced to FEA or static stress analysis?
- ❑ Do students use simulation results to evaluate or improve their designs?
- ❑ **Explore:** Static stress simulation in Fusion to evaluate design performance and inform design decisions.

Review content



- ❑ Review the [Static Stress Simulation](#) course
- ❑ Review modules covering study setup, materials, loads and constraints, solving, and interpreting results
- ❑ Review practice exercises, challenge activities, course resources, and the instructor guide to identify what fits the class.

Save & organize



- ❑ Add the full course or selected modules to a List based on the skills being taught.
- ❑ Combine course modules with practice or challenge activities to support classroom demonstrations, lab work, or independent practice.
- ❑ Use Bookmark and Plus icons to save and organize content.

Send



- ❑ Share the saved List URL with students for in-class activities, homework, or self-paced learning.

Use case: Generative Design

Match engineering design and optimization classroom topics with Generative Design learning content.

Discovery



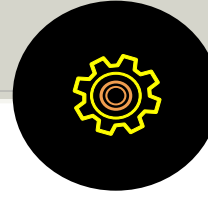
- ☐ Do students explore design optimization?
- ☐ Do students consider loads, constraints, materials, and manufacturing requirements as part of the design process?
- ☐ Do students evaluate design alternatives based on performance and manufacturability?
- ☐ **Explore:** Generative Design in Fusion to explore design optimization.

Review content



- ☐ Review the [Generative Design](#) course as a short introduction.
- ☐ Also use [Introduction to Generative Design for MFG](#) or [Generative Design for Manufacturing Applications](#).
- ☐ Review modules covering design space, loads and constraints, materials, manufacturing methods and objectives, and exploring outcomes.
- ☐ Review practice exercises, challenge activities, course resources, and the instructor guide to identify what fits the class.

Save & organize



- ☐ Add the full course or selected modules to a List based on the skills being taught.
- ☐ Combine course modules with practice or challenge activities to support classroom demonstrations, lab work, or independent practice.
- ☐ Use Bookmark and Plus icons to save and organize content.

Send



- ☐ Share the saved List URL with students for in-class activities, homework, or self-paced learning.

Use case: **Electronics Design**

Match electronics and PCB design classroom topics with Fusion learning content.

Discovery



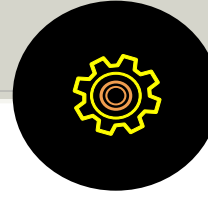
- ☐ Do students create both electronic schematics and PCB layouts?
- ☐ How far do students progress—from circuit design to a manufacturable PCB?
- ☐ Do students connect PCB design with mechanical form, fit, or enclosure requirements?
- ☐ **Explore:** Electronics design workflows in Fusion, including schematics, PCB layout, 3D PCB models, and manufacturing output.

Review content



- ☐ Review **Electronics Design course and project**.
- ☐ Review modules covering electronics libraries, schematic design, PCB layout, 3D PCB models, and Gerber file generation
- ☐ Review practice exercises, challenge activities, course resources, and the instructor guide to identify what fits the class.

Save & organize



- ☐ Add the full course/project or selected modules to a List based on the skills being taught.
- ☐ Combine course modules with practice or challenge activities to support classroom demonstrations, lab work, or independent practice.
- ☐ Use Bookmark and Plus icons to save and organize content.

Send



- ☐ Share the saved List URL with students for in-class activities, homework, or self-paced learning.

Discover and use Autodesk Learning in the classroom



Short videos to help you find
Autodesk Learning resources, create
playlists, and choose learning that fits
your curriculum and class time.

 **AUTODESK**

Autodesk Learning video guides

Access short videos for curriculum integration, projects, playlists, and certification.

[Discover Autodesk Learning](#)

Just getting started with Autodesk Learning? Discover what Autodesk offers and find learning resources that fit the classes you teach.

[Bring Autodesk Learning into your existing CAD curriculum](#)

Already teaching a CAD course? Learn how to integrate Autodesk Learning into your existing curriculum and find resources that support your learning objectives.

[Integrate Autodesk Learning into your AECO Curriculum](#)

Already teaching a BIM or Construction course? Learn how to integrate Autodesk Learning into your existing curriculum and find resources that support your learning objectives.

[Find classroom-ready projects and exercises](#)

Looking for a project or class assignment? Find classroom-ready projects that reinforce your students' learning and fit your course.

[Teach an Autodesk course from start to finish](#)

Need a ready-to-teach Autodesk course? Find a complete Autodesk Learning course you can confidently teach or adapt to fit your classroom.

[Prepare students for Autodesk certification](#)

Want to give students a career head start? Find certification preparation courses and resources to help students build skills, practice, and get ready for certification.

Certification pathways



Explore certification levels, recommended learning paths, preparation resources, and exam funding resources and costs.

 **AUTODESK**

Levels of certification

From foundational to advanced, certifications help to signal a mastery of skills

Autodesk Certified User (ACU)

Designed for: Learners with basic Autodesk software knowledge and skills who want to prove evidence of competency and proficiency of skills while building confidence as they continue to master Autodesk products and pursue further certifications.

Recommended Software Experience: ~100 cumulative hours of relevant Autodesk software experience

Autodesk Certified Associate (ACA)

Designed for: Learners and professionals with foundational Autodesk software knowledge and skills who are ready to enter the job market or shift to a new career path.

Recommended Software Experience: ~150 cumulative hours of relevant Autodesk software experience

Autodesk Certified Professional (ACP)

Designed for: Advanced learners and professionals solving workflow and design challenges who want to move their skills, research, and career forward and stand out in their market.

Recommended Software Experience: 400 - 1,200 cumulative hours of relevant Autodesk software experience

Autodesk Certified Expert (ACE)

Designed for: Learners and professionals who are looking to incorporate the most advanced and cutting-edge skills into their workflows and want to develop significant depth in their expertise.

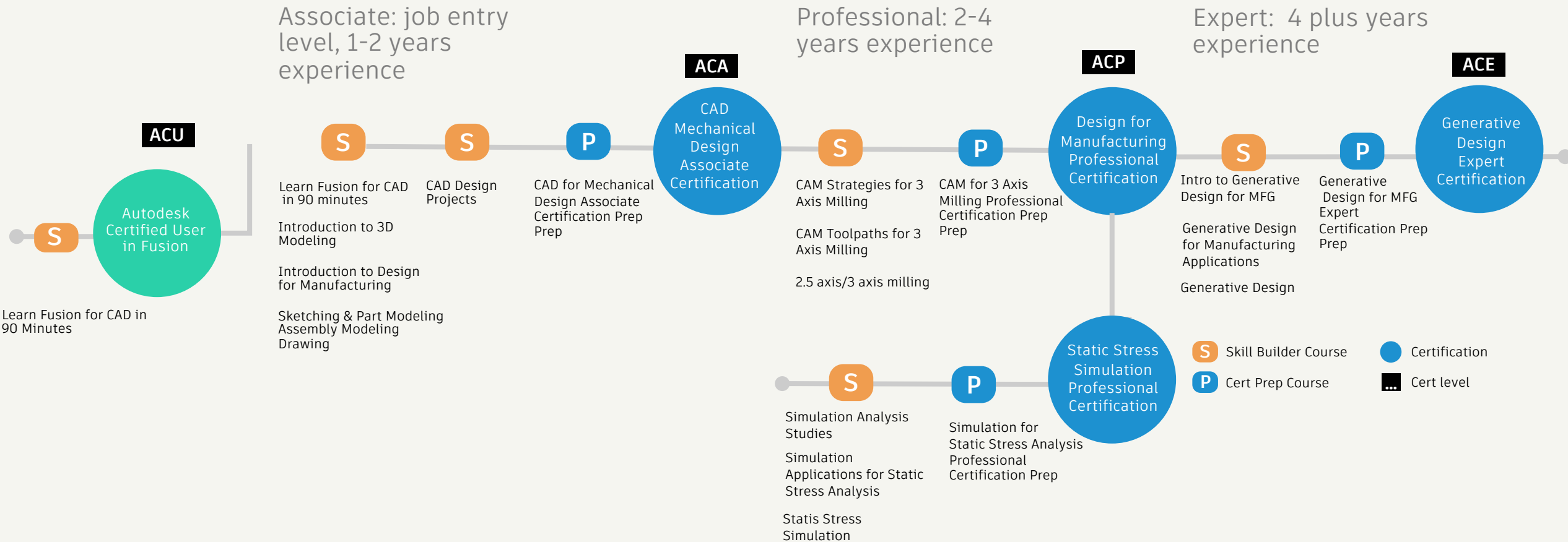
Recommended Software Experience: 400 - 1,200 cumulative hours of relevant Autodesk software experience

Autodesk offers a range of certifications from beginner to expert to ensure every learner and professional has the resources to advance their career. Certifications are industry-verified and aligned to the skills and tasks of real-world roles to ensure they help provide immediate applicability and benefits to each person getting certified and their employers.

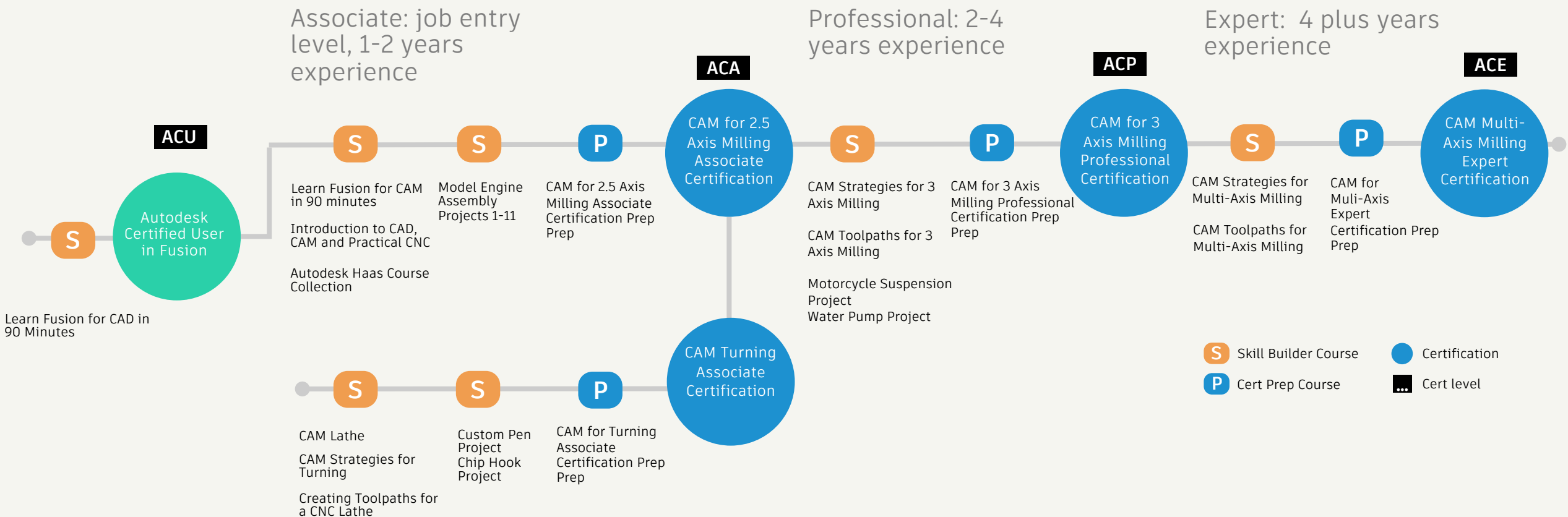
Autodesk Certification Portfolio

Certification		Certified User (~\$100)	Associate \$150	Professional (\$200)	Expert \$250
Ideal candidates		Secondary students and Non-English speakers (Up to 150 hrs.)	Early career professionals and higher education students (150+ hrs.)	Advanced professionals and advanced students (400-1200+ hrs.)	Expert professionals and graduate-level students (400-1200+ hrs.)
Architecture, Engineering, and Construction	AutoCAD				
	Revit			    	
	Civil3D				
Design and Manufacturing	Fusion		  	  	 
	Inventor				
Media and Entertainment	3ds Max				
	Maya				
		Autodesk Certified User Delivered through our partner Certiport Available in multiple languages	Autodesk Certified Associate/Professional/Expert (ACA/ACP/ACE) Delivered on Autodesk.com & Pearson Professional Assessment Available in English only.		

Learning pathways to Autodesk certification: Mechanical Designer & Mechanical Engineer



Learning pathways to Autodesk certification: CAM/CNC Programmer for CNC Manufacturing



Key certification resource links

Note: Links are shown for reference – verify availability in your region before sharing with learners.

All Autodesk certifications

Browse every certification, exam objectives, and preparation resources.

autodesk.com/certification/all-certifications

Autodesk Certified User

Entry-level credentials for students, delivered through our partner Certiport.

certiport.pearsonvue.com/Buy/School

Associate, Professional, Expert

Career-stage exams delivered on Autodesk.com and through Pearson VUE.

home.pearsonvue.com/autodesk

Autodesk Certification Support

Email address for support

Certification@autodesk.com

Paying for it

GI Bill – Veterans and Family

[Licenses, certifications, and prep courses: GI Bill® Comparison Tool | Veterans Affairs](#)

What Perkins V covers

Federal grant funding that U.S. states may direct toward software and certification adoption.

certiport.pearsonvue.com/Certifications/Autodesk/Certifications/Endorsements

How to purchase certification vouchers

Autodesk Certified User

- Purchase single exam vouchers or classroom licenses
- Valid for Autodesk Certified User exams
- Schools can become a Certiport Authorized Testing Center
- Best for classroom or cohort delivery

CERTIPORT[®]

Certiport representatives list



Autodesk Associate / Professional / Expert

- Use Autodesk.com certification pages for individual registration
- Route bulk voucher needs through Autodesk Learning Partners or distributors
- Pair vouchers with prep resources, practice tests, and exam objectives
- Confirm regional availability before purchase

Pearson
Professional Assessments

AUTODESK
Learning Partner



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