



HOW TO USE SOLIDPROFESSOR IN **TRADITIONAL** & **FLIPPED** CLASSROOM MODELS

Explore multiple strategies for integrating online learning in both classroom environments, and see what our experts recommend for your CAD curriculum!

Traditional vs. Flipped Classrooms What's the Difference?

Traditional Classroom

A **traditional classroom** structure is what many students and teachers are familiar with. Across all subjects, it's the model most educators use in K-12 and higher education classrooms. The instructor stands up at the front of the classroom and lectures while students listen and take notes. Then, students go home and apply what they learned by completing exercises and projects independently or with a group.

In short, in a traditional classroom, students learn about concepts during class and apply what they learned outside of the classroom.



During Class Time

Students Learn New Concepts

During class, instructors give lectures, presentations, and facilitate discussions with their students.



Outside of Class

Students Apply the Concepts They Learned

Outside of class, students work on their assignments including workbooks, exercises, and group projects.

Flipped Classroom

A **flipped classroom** is a modern approach to teaching. It's especially popular with instructors who teach subjects where hands-on learning is key. Many STEM programs have adopted this model for that very reason. Flipped classrooms take the traditional model and, you guessed it, flip it.

In short, in a flipped classroom, students learn about concepts outside of the classroom and apply what they learned during class.



Outside of Class

Students Learn New Concepts

Outside of class, students learn new concepts by watching videos and reading textbooks and timely articles. Instructors can also set up discussion boards for students to share ideas and provide feedback.



During Class Time

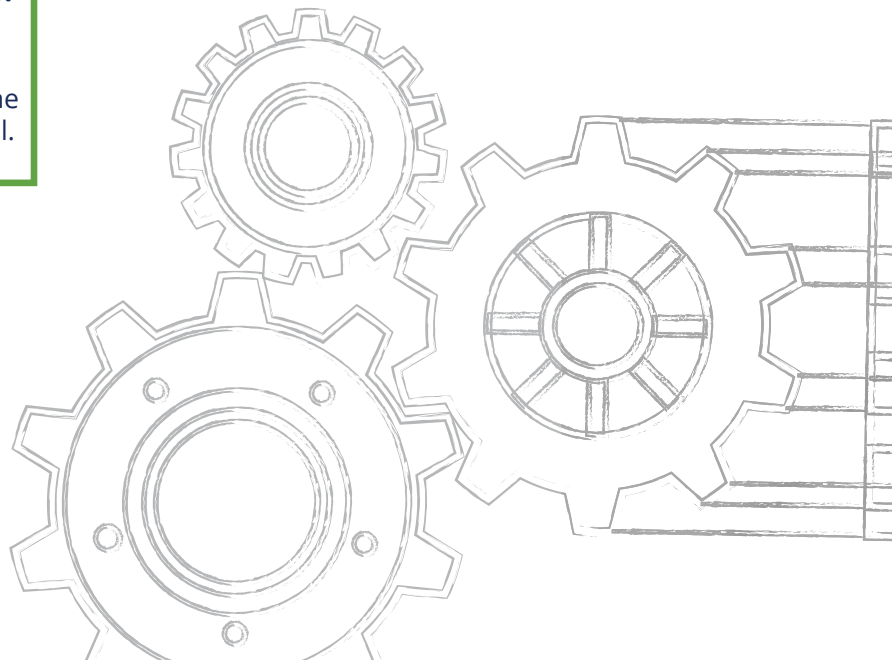
Students Apply the Concepts They Learned

During class, students work independently or with small groups and apply the concepts they learned at home to complete assignments, exercises, and projects. This frees up time for instructors to answer questions and help students problem-solve when they get stuck.



Can I use a traditional or flipped classroom while teaching online?

Yes! Whether your school teaches students in-person, online, or with a hybrid schedule, you can use either the traditional or flipped classroom model.



SolidProfessor Integrates into Both Traditional and Flipped Classrooms — Here's How

Why SolidProfessor?

SolidProfessor is the no. 1 learning platform for engineering, architecture, and manufacturing design programs. Our expert-led courses, exercises, and exams will help students learn the skills they need to be college and career-ready. Plus, our rigorous curriculum, certification prep, and easy-to-use instructor and reporting tools give teachers more time back in their day to support their students when and where they need it most.

How Teachers Use SolidProfessor in a Traditional Classroom



During Class Time

Switch up lectures with video lessons. With SolidProfessor, you can switch it up by replacing lectures with SolidProfessor's expert-led video lessons one or more times per week. This will free instructors up during class time to grade assignments and help students who have questions.

“SolidProfessor is like a classroom assistant that frees me up to do other things.”



Aaron Kahlenberg
Architectural Drafting & Design Teacher
John F. Kennedy High School, Los Angeles, CA



Outside of Class

Assign SolidProfessor exercises as homework. Each SolidProfessor course comes with multiple exercises so students can apply what they learned in class. For ease, SolidProfessor exercises come with an answer key that's only accessible to instructors.

Assign SolidProfessor tests as homework. SolidProfessor includes a short exam at the end of most courses so students can test their knowledge. The tests are automatically graded and scores will be accessible in the reporting tool. Instructors can determine how many test attempts to allow.

Help guide students through assignments with SolidProfessor courses. Students can watch SolidProfessor's step-by-step video lessons at home when they get stuck on exercises or other assignments and projects.

“What SolidProfessor has allowed us to do is teach much more efficiently. [...] SolidProfessor gives us the ability to let the students work at their own pace.”



Shawn Kerr
STEM Teacher
Alcoa High School, Alcoa, TN



Because SolidProfessor is fully online, your students will need access to the internet during class. The good news — it works on any device from desktop computers to tablets.

How to Use SolidProfessor in a Flipped Classroom



Outside of Class

Assign students SolidProfessor courses as homework. Students can learn new concepts by watching expert-guided video lessons at home. Then, they can apply those new concepts during in-class projects.

“ Seeing complex models conveyed visually is the way I, and the members of the team, prefer to learn. [SolidProfessor] is our go-to resource.



Jakob Madgar
Engineering Student
Ohio State University, Columbus, OH



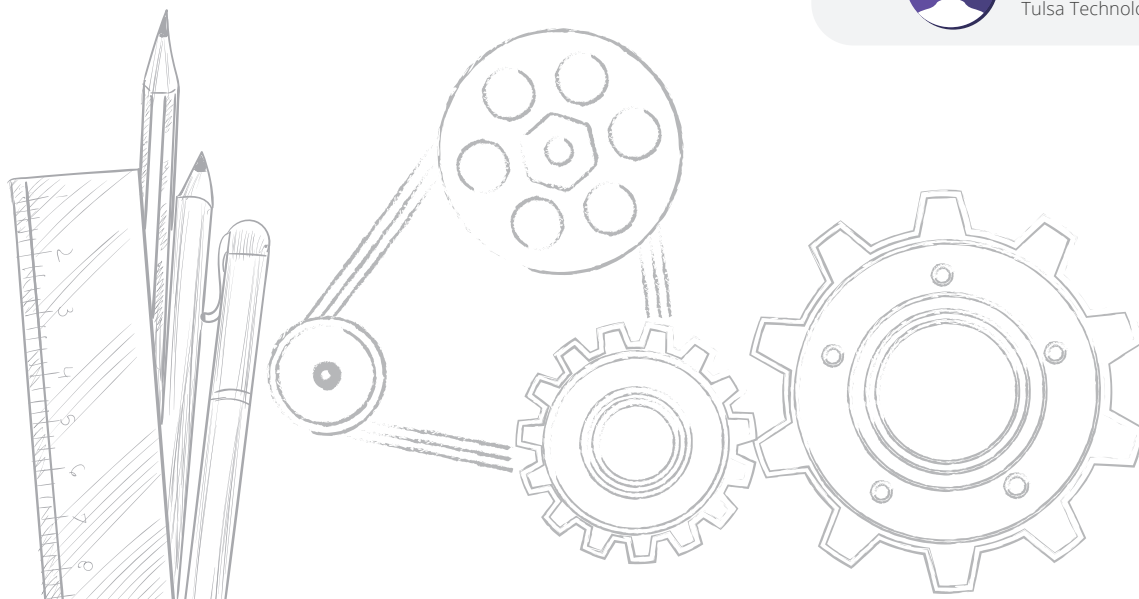
During Class Time

Work on SolidProfessor exercises during class. In addition to projects assigned by their instructor, students can work on SolidProfessor exercises during class. This frees teachers up to problem-solve one-on-one with students and small groups. Students can also do this independently by revisiting SolidProfessor's video lessons during class. To help instructors cut down on grading time, SolidProfessor exercises come with an answer key that's only accessible to them.

“ For me to focus on teaching them SOLIDWORKS individually was pretty tough, I needed some type of learning platform that they could work on at a personalized pace.



Michael Doerin
Architectural Drafting & Design Teacher
Tulsa Technology Center, Tulsa, OK



Expert-Recommended SolidProfessor Courses by Software

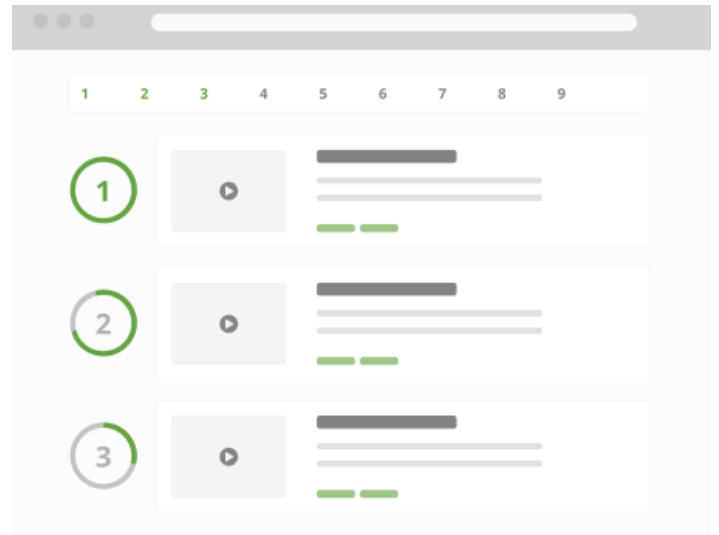
SolidProfessor has more than **400 online courses** covering 40+ CAD, CAM, and BIM topics. With so many courses to choose from in our library, it can be challenging to know where to start — and which courses to assign students first.

As a SolidProfessor member, instructors will be able to assign students as many or as few courses, exercises, and exams as they need. The curriculum is completely customizable! However, here are six sample curriculums recommended by our experts to get started.

“SolidProfessor makes your life that much easier. You can create a class, add students to that class, assign courses and exercises, and see where the students get stuck. If I can see where they're stuck, I can identify what's going on, and give them the help they need.”



Rameesh Madourie
Engineering and Architecture Instructor
South High School, Denver, CO



Click on a software title below to jump right to the recommended curriculum.

SOLIDWORKS

AutoCAD

Autodesk Inventor

Autodesk Revit

Autodesk Fusion 360

Onshape



SOLIDWORKS Curriculum

Spatial Visualization

Students will learn how to visualize 2D images as 3D parts.

Duration 25m
No. of exercises 9
Comprehension test Yes
Technical Certificate available Yes

Engineering Graphics

Students will learn how to clearly communicate a design's geometry and specifications.

Duration 1hr 25m
No. of exercises 18
Comprehension test Yes
Technical Certificate available Yes

SOLIDWORKS Beginner to Certification

Students will learn the fundamentals of SOLIDWORKS while practicing the skills they'll need to pass the CSWA.

Duration 6hr 22m
No. of exercises 44
No. of practice exams 3
Technical Certificate available Yes

SOLIDWORKS Essentials for Part Design

Students will learn key skills in sketching, sketched and applied features, reference geometry, and much more.

Duration 5hr 3m
No. of exercises 24
Comprehension test Yes
Technical Certificate available Yes

SOLIDWORKS Essentials for Assembly Design

Students will learn how to create assemblies by practicing how to import parts, basic mates, subassemblies, and much more.

Duration 1hr 29m
No. of exercises 7
Comprehension test Yes
Technical Certificate available Yes

[View All SOLIDWORKS Courses >>](#)



AutoCAD Curriculum

Spatial Visualization

Students will learn how to visualize 2D images as 3D parts.

Duration 25m

No. of exercises 9

Comprehension test Yes

Technical Certificate available Yes

Engineering Graphics

Students will learn how to clearly communicate a design's geometry and specifications.

Duration 1hr 25m

No. of exercises 18

Comprehension test Yes

Technical Certificate available Yes

AutoCAD Beginner to Certification

Students will learn the fundamentals of AutoCAD while practicing the skills they'll need to pass the AutoCAD User Certification exam.

Duration 1hr 54m

No. of exercises 5

Comprehension test Yes

Technical Certificate available Yes

AutoCAD Essentials

Students will learn how to draw in model space and paper space, use drawing templates and viewing tools, and much more.

Duration 3hr 59m

No. of exercises 19

Comprehension test Yes

Technical Certificate available Yes

[View All AutoCAD Courses >>](#)



Autodesk Inventor Curriculum

Spatial Visualization

Students will learn how to visualize 2D images as 3D parts.

Duration 25m
No. of exercises 9
Comprehension test Yes
Technical Certificate available Yes

Engineering Graphics

Students will learn how to clearly communicate a design's geometry and specifications.

Duration 1hr 25m
No. of exercises 18
Comprehension test Yes
Technical Certificate available Yes

Inventor Beginner to Certification

Students will learn the fundamentals of Inventor while practicing the skills they'll need to pass the Inventor User Certification exam.

Duration 5hr 32m
No. of exercises 44
No. of practice exams 5
Comprehension test Yes
Technical Certificate available Yes

Inventor Essentials for Parts and Assemblies

Students will learn how to sketch, use sketched and placed features, geometry, and more to create parts and assemblies.

Duration 4hr 13m
No. of exercises 19
Comprehension test Yes
Technical Certificate available Yes

Inventor Drawings

Students will learn how to translate 3D models to 3D drawings, use different views, lists, and more.

Duration 1hr 24m
Comprehension test Yes
Technical Certificate available Yes

[View All Inventor Courses >>](#)



Autodesk Revit Curriculum

Spatial Visualization

Students will learn how to visualize 2D images as 3D parts.

Duration 25m

No. of exercises 9

Comprehension test Yes

Technical Certificate available Yes

Engineering Graphics

Students will learn how to clearly communicate a design's geometry and specifications.

Duration 1hr 25m

No. of exercises 18

Comprehension test Yes

Technical Certificate available Yes

Revit Beginner to Certification

Students will learn the fundamentals of Revit while practicing the skills they'll need to pass the Revit User Certification exam.

Duration 9hr 6m

No. of exercises 44

No. of practice exams 5

Comprehension test Yes

Technical Certificate available Yes

Revit Essentials

Students will learn how to set up new projects, use drawing and editing tools, site tools, and more.

Duration 6hr 11m

No. of exercises 19

Comprehension test Yes

Technical Certificate available Yes

[View All Revit Courses >>](#)



Autodesk Fusion 360 Curriculum

Spatial Visualization

Students will learn how to visualize 2D images as 3D parts.

Duration 25m
 No. of exercises 9
 Comprehension test Yes
 Technical Certificate available Yes

Engineering Graphics

Students will learn how to clearly communicate a design's geometry and specifications.

Duration 1hr 25m
 No. of exercises 18
 Comprehension test Yes
 Technical Certificate available Yes

Fusion 360 Beginner to Certification

Students will learn the fundamentals of SOLIDWORKS while practicing the skills they'll need to pass the Fusion 360 User Certification exam.

Duration 8hr 35m
 No. of exercises 50
 No. of practice exams 5
 Comprehension test Yes
 Technical Certificate available Yes

Fusion 360 Form

Students will learn how to make simple shapes and highly customized contours to create 3D models.

Duration 1hr 38m
 No. of exercises 4
 Comprehension test Yes
 Technical Certificate available Yes

Fusion 360 Surface

Students will learn how to use key surfacing tools that will allow them to create complex curves and contours.

Duration 34m
 No. of exercises 3
 Comprehension test Yes
 Technical Certificate available Yes

[View All Fusion 360 Courses >>](#)



Onshape Curriculum

Spatial Visualization

Students will learn how to visualize 2D images as 3D parts.

Duration 25m
 No. of exercises 9
 Comprehension test Yes
 Technical Certificate available Yes

Engineering Graphics

Students will learn how to clearly communicate a design's geometry and specifications.

Duration 1hr 25m
 No. of exercises 18
 Comprehension test Yes
 Technical Certificate available Yes

Onshape Beginner to Certification

Students will learn the fundamentals of Onshape while practicing the skills they'll need to pass the Certified Onshape Associate exam.

Duration 4hr 51m
 No. of exercises 29
 No. of practice exams 4
 Comprehension test Yes
 Technical Certificate available No

[View All Onshape Courses >>](#)

The No. 1 Online Learning Platform for Teaching Engineering, Architecture, and Manufacturing Design.

Prepare students for college and careers by integrating SolidProfessor's ready-to-use curriculum into your program's existing syllabus



A ready-to-use curriculum that gives teachers more time back in their day

Educators' time is precious — so it should be simpler to prepare students for college and careers. With SolidProfessor, instructors don't have to spend hours updating lectures and assignments thanks to our library of 400+ courses, exercises, and quizzes.



Students can learn anywhere, anytime, and at their own pace

SolidProfessor is accessible on any device which makes learning possible from anywhere at any time. SolidProfessor's approach to learning is rooted in bite-sized videos, so students can start, pause, and rewatch videos when they need to. This type of learning helps students retain more information so they can apply their new skills.



Schools can meet state learning and CTE standards with career-ready curriculum

Many states require that CTE programs offer a certain level of rigor to ensure students are learning the skills they need to be career-ready. SolidProfessor courses are used by professionals so rest assured your students will learn the skills required in today's workforce. Plus, students can prove they're mastering topics by earning Technical Certificates.



Increase students' certification passing rate with industry-leading prep courses

With SolidProfessor, students can go from beginners to CAD certified in as little as a semester. We offer expert-guided certification prep courses and practice exercises and exams to get students ready to take the following tests: CSWA, CSWP, CSWE, Autodesk User Certifications, and the Certified Onshape Associate. Plus, through our partnerships with software retailers, we're able to offer free exam vouchers to students who complete the SOLIDWORKS or Onshape Beginner to Certification courses.



Track student progress using an easy-to-use Reporting Tool

Our Reporting Tool allows instructors to monitor students' progress by viewing quiz scores where they can see which lessons they did or didn't watch. This allows teachers to determine who is falling behind so they can step in and offer one-on-one support. Instructors can also identify who is excelling so they can challenge those students to go through more advanced courses.

Ready to learn more about SolidProfessor for Schools?

Get a customized demo to learn how SolidProfessor for Schools can meet your university, district, or classroom needs.

[Sign Up for a Demo](#)

