

Learn Forma Data Management in 90 minutes

Instructor guide

Course duration: ~5 hours, depending on lecture time

Recommended student level: Beginner students in construction management or related fields

Product: Autodesk Forma for Construction

This instructor guide is a comprehensive tool for facilitating this course in the classroom. Prepare to teach the course by thoroughly reviewing this document, as well as all related course materials and resources. You may also share this document with your students to guide them in their assignments. It's always recommended that you work through the course yourself in preparation for each module.

Learning objectives:

After completing this course, you will be able to:

- Build a professional folder structure to keep project data organized.
- Control access by setting permissions for different team members.
- Upload and view 3D models and 2D drawings in a web browser.
- Compare file versions to quickly see what has changed.
- Create digital markups and assign Issues to track project tasks.
- Manage formal document handoffs using Reviews and Transmittals.
- Generate automated reports to update the team on project status.

The overall course contains the following resources:

- Three video modules covering all the topics in the course.
- Dataset files for use when following the video modules.
- Quiz questions with timecodes for remedial knowledge check.
- Exam-style final test questions at the conclusion of the course.
- Three practice exercises with exercise files and solutions.
- One challenge assignment with recommended assessment criteria.
- Lecture slides that introduce topics and themes covered in the course.

Structure of the course:

The course is split into 3 modules and is designed to cover how to build a professional common data environment in Autodesk Forma for Construction Data Management.

Videos:

Each video begins with a list of learning objectives covered in the video. The dataset mentioned throughout all the videos are available for students to follow along or practice after the video.

Dataset:

This course has one dataset folder including Revit models in imperial and metric units and some additional files to be used throughout the course and course series. This course is part of a series of four courses, (1) Learn Data Management, (2) Learn Build, (3) Learn Design Collaboration and Model Coordination, and (4) Learn Preconstruction. The dataset folder is the same for all four courses. It is recommended to offer the Learn Data Management course (this course) first since it teaches students how to upload the dataset folder to Autodesk Forma. Follow the Instructor setup guide video and ask students to watch the video on accepting the invite if they need guidance.

Practice exercises:

There are 3 practice exercises included, each exploring a different set of topics. The practice exercises are designed to give students an opportunity to test their knowledge and apply what they have learned. Each practice exercise is accompanied by an answer key. Students should follow along the videos in the module before attempting the practice exercise for that module.

Challenge exercise:

One challenge assignment is included, focusing on a set of topics covered in the course. Students are presented with a challenge in an applicable real-world situation, and they apply their skills and the techniques learned to solve the challenge. A grading rubric is provided for the instructor, giving guidelines on assessment criteria. You can also encourage students to work in small groups, first discussing the desired outputs and working collectively to derive the best process and execution in the software.

Video quiz questions:

Quiz questions are included with each video of the course and the timecodes are included so that students can review the related sections in the video for questions they have answered incorrectly.

Final test questions:

A cumulative set of exam-style questions are included at the conclusion of the course for students to measure what they have learned against realistic multiple-choice questions.

Lecture slides:

Lecture slides are offered to help facilitate in-class discussion.

Using the course in the classroom or self-paced

This course can be implemented as an independent, self-paced project, or can be completed in the classroom in a team setting. A couple of options are outline below:

Option 1: Self-paced

Each student will log into Autodesk.com/learn using their Autodesk Account credentials and follow along with the project instruction. (Alternatively, you may choose to assign the material through your LMS). Students can work through the projects on their own by following the project steps and challenge instructions, and by exploring any supporting assets. This is a great way to allow students to move through the learning materials at their own pace and explore additional learning opportunities or increase shop time. The self-paced option can also be used for out of classroom or remote assignments. A certificate of completion is awarded once the course is completed.

Option 2: Instructor-led

In this option, instructors will log into Autodesk.com/learn using their Autodesk Account credentials and download the learning materials. Instructors can then guide the students through each project, using the accompanying lecture slides for instruction and step-by-step guides and practice exercises as handouts. This option allows for guided, step-by-step classroom engagement. This approach works well in a more traditional classroom setting and will allow instructors to easily keep students on the same pace. The challenge exercise can be used as a learning opportunity for students who complete their work early or are looking for additional hands-on opportunities.

Course contents

Each module is listed below along with suggested time allocations for instruction. Review the video tutorials for the detailed instruction in each module.

SETUP FOR THE COURSE

IMPORTANT: Be sure to review the set-up videos before beginning this course. There is one video for the instructor and one for the student in the Getting Started section of the course.

Module 1: Manage files and specifications in Forma Data Management

Set up a folder structure

Total time required for module: 15 minutes

Discuss objectives: 1 minute

Demonstrate: 3 minutes

- Set up a folder structure.
- Add folder permissions.
- Explain the effect of member access level on folder permissions.

Hands-on time: 10 minutes

Review objectives: 1 minute

Datasets:

N/A

Assignments (additional):

- **Quiz:** 2 minutes

Upload sheets and models

Total time required for module: 15 minutes

Discuss objectives: 1 minute

Demonstrate: 3 minutes

- Upload files directly to Forma Data Management.
- Upload models from Revit.

Hands-on time: 10 minutes

Review objectives: 1 minute

Datasets:

All the files in the dataset folder will be uploaded to Files in Data Management

Assignments (additional):

- **Quiz:** 2 minutes
-

Upload specifications

Total time required for module: 15 minutes

Discuss objectives: 1 minute

Demonstrate: 3 minutes

- Upload specifications to Forma Data Management.
- Describe how AI helps processing specifications.
- Modify specification sections as required.

Hands-on time: 10 minutes

Review objectives: 1 minute

Datasets:

The needed files are uploaded to Files in Data Management.

Assignments (additional):

- **Practice Exercise 1: Explore specifications in Forma Data Management:** 10 minutes
- **Quiz:** 2 minutes

Module 2: Navigate sheets and models in Forma Data Management

Navigate and annotate 2D drawings

Total time required for module: 15 minutes

Discuss objectives: 1 minute

Demonstrate: 3 minutes

- Use the markup tools to annotate drawings.
- Use the measure tools to measure distances.
- Describe the difference between the markup and the measure tools.

Hands-on time: 10 minutes

Review objectives: 1 minute

Datasets:

The needed files are uploaded to Files in Data Management.

Assignments (additional):

- **Quiz:** 2 minutes
-

Navigate sheets within a Revit model

Total time required for module: 15 minutes

Discuss objectives: 1 minute

Demonstrate: 3 minutes

- Explore 3D views from 2D sheets.
- Use the model browser.
- Describe the benefit of uploading sheets from Revit.

Hands-on time: 10 minutes

Review objectives: 1 minute

Datasets:

The needed files are uploaded to Files in Data Management.

Assignments (additional):

- **Quiz:** 2 minute
-

Navigate 3D models

Total time required for module: 15 minutes

Discuss objectives: 1 minute

Demonstrate: 3 minutes

- Use the measure tools in 3D.
- Use filters in the model browser.
- Save viewpoints.

Hands-on time: 10 minutes

Review objectives: 1 minute

Datasets:

The needed files are uploaded to Files in Data Management.

Assignments (additional):

- **Quiz:** 2 minutes
-

Access files on the Forma mobile app

Total time required for module: 15 minutes

Discuss objectives: 1 minute

Demonstrate: 3 minutes

- Use the mobile app to view 2D sheets.
- Use the mobile app to view 3D models.

Hands-on time: 10 minutes

Review objectives: 1 minute

Datasets:

The needed files are uploaded to Files in Data Management.

Assignments (additional):

- **Quiz:** 2 minutes
-

Share files in Forma Data Management

Total time required for module: 15 minutes

Discuss objectives: 1 minute

Demonstrate: 3 minutes

- Share files through transmittals.
- Create review workflows.
- Submit files for review.

Hands-on time: 10 minutes

Review objectives: 1 minute

Datasets:

The needed files are uploaded to Files in Data Management.

Assignments (additional):

- **Practice Exercise 2: Explore drawings and models in Forma Data Management:** 20 minutes
 - **Quiz:** 2 minutes
-

Module 3: Perform a design review in Forma Data Management

Compare file versions in 2D and 3D

Total time required for module: 15 minutes

Discuss objectives: 1 minute

Demonstrate: 3 minutes

- Use the Compare tool to identify changes between file versions.
- Visualize and interpret comparison results.
- Export comparison data.

Hands-on time: 10 minutes

Review objectives: 1 minute

Datasets:

The needed files are uploaded to Files in Data Management.

Assignments (additional):

- **Quiz:** 2 minutes
-

Create issues

Total time required for module: 15 minutes

Discuss objectives: 1 minute

Demonstrate: 3 minutes

- Use the Compare tool to identify changes between file versions.
- Visualize and interpret comparison results.
- Export comparison data.

Hands-on time: 10 minutes

Review objectives: 1 minute

Datasets:

The needed files are uploaded to Files in Data Management.

Assignments (additional):

- **Quiz:** 2 minutes
-

Create report templates and generate reports

Total time required for module: 15 minutes

Discuss objectives: 1 minute

Demonstrate: 3 minutes

- Create and configure report templates based on project data.
- Generate and export reports to communicate project status and progress.

Hands-on time: 10 minutes

Review objectives: 1 minute

Datasets:

The needed files are uploaded to Files in Data Management.

Assignments (additional):

- **Practice Exercise 3: Compare files and create issues in Forma Data Management:** 20 minutes
 - **Quiz:** 2 minutes
-

Next steps: End of course (additional)

- **Challenge exercise: Review design changes and create project issues in Forma Data Management:** 60 minutes
- **End-of-course exam questions:** 20 minutes