Construction project management

# Instructor guide

Course duration if teaching with this material in class: ~5 hours, depending on lecture time

Recommended student level: Students in construction programs, 4-year and graduate level

Product: Autodesk Construction Cloud

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:**

* Navigate Build and understand its role in project management.
* Manage drawings and specifications with document control tools.
* Capture and track issues across teams, for desktop and mobile users.
* Create, route, and close RFIs and submittals.
* Schedule, record, and follow up on project meetings.
* Generate reports to monitor progress and accountability.
* Develop and manage punch lists during project closeout.
* Add and manage project assets to track building components, materials, equipment, temporary items, and documentation throughout the project lifecycle.

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.
* Two 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.

**Pre-requisites:**

After completing this course, you will understand how effective preconstruction management integrates BIM coordination, information management, and commercial controls into a single, aligned process. You will gain hands-on experience using Autodesk Construction Cloud to support coordination, document decisions, and maintain transparency across stakeholders.

**Structure of the course:**

The course is split into 3 modules and is designed to cover preconstruction concepts in the Autodesk Construction cloud.

**Videos:**

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

**Dataset:**

This course has one dataset folder including Revit files in Imperial and Metric units and PDFs of specifications.

**Practice exercises:**

There are 2 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 a dataset and video solution.

**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**

The Preconstruction management 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.

**Module 1-01 What is construction project management?**

**Total time required for module:** 10 minutes

**Discuss objectives:** 1 minute

**Demonstrate:** 8 minutes

* Define the role of construction management in project delivery.
* Explain why construction management is important for achieving project objectives.
* Identify common processes and responsibilities within construction management.

**Hands-on time:** 0 minutes

**Review objectives:** 1 minute

**Datasets:** *NA*

**Assignments (additional):**

* **Quiz:** 2 minutes

**Module 1-02 Explore construction project management workflows in Build**

**Total time required for module:** 10 minutes

**Discuss objectives:** 1 minute

**Demonstrate:** 8 minutes

* Describe the major workflows in Autodesk Build and their role in the project lifecycle.
* Recognize how structured digital tools improve project communication and workflows.
* Explain how proactive management reduces risks, delays, and disputes.

**Hands-on time:** 0 minutes

**Review objectives:** 1 minute

**Datasets:** *NA*

**Assignments (additional):**

* **Quiz:** 2 minutes

**Module 2-01 Manage drawings**

**Total time required for module:** 25 minutes

**Discuss objectives:** 1 minute

**Demonstrate:** 8 minutes

* Upload drawings and specification files.
* Track revisions and manage updates.
* Organize documents into sets for clarity and access.

**Hands-on time:** 15 minutes

**Review objectives:** 1 minute

**Datasets:***Division 01.pdf*

*Division 02.pdf*

*Division 03.pdf*

*Division 03\_Bulletin 1.pdf*

**Assignments (additional):**

* **Quiz:** 2 minutes

**Module 2-02 Manage specifications**

**Total time required for module:** 25 minutes

**Discuss objectives:** 1 minute

**Demonstrate:** 8 minutes

* Upload project specifications
* Structure specifications into divisions and sections for quick navigation

**Hands-on time:** 15minutes

**Review objectives:** 1 minute

**Datasets:** *Division 01.pdf*

*Division 02.pdf*

*Division 03.pdf*

*Division 03\_Bulletin 1.pdf*

**Assignments (additional):**

* **Quiz:** 2 minutes

**Module 2-03 Track changes in plans and specifications**

**Total time required for module:** 20 minutes

**Discuss objectives:** 1 minute

**Demonstrate:** 8 minutes

* Use Build to find which plans and spec sections changed between issue sets.
* Use search, filters, and version history to review revised drawings and specifications.
* Compare updated content to determine how scope or requirements have changed.

**Hands-on time:** 10 minutes

**Review objectives:** 1 minute

**Datasets:** *Division 01.pdf*

*Division 02.pdf*

*Division 03.pdf*

*Division 03\_Bulletin 1.pdf*

**Assignments (additional):**

* **Practice Exercise Module 2: Upload plan sheets and track changes:** 10 min. Dataset: *Snowdon Towers\_Bulletin 2.pdf*
* **Quiz:** 2 minutes

**Module 3-01 Manage RFIs and submittals**

**Total time required for module:** 35 minutes

**Discuss objectives:** 1 minute

**Demonstrate:** 10 minutes

* Draft and submit requests for information (RFIs) with supporting documentation.
* Route submittals through approval workflows.
* Track review progress and post responses to drawings.

**Hands-on time:** 20 minutes

**Review objectives:** 1 minute

**Assignments (additional):**

* **Quiz:** 2 minutes

**Module 3-02 Create meetings and capture minutes**

**Total time required for module:** 20 minutes

**Discuss objectives:** 1 minute

**Demonstrate:** 8 minutes

* Create and update meeting minutes in Build.
* Record minutes and assign follow-up items.

**Hands-on time:** 10 minutes

**Review objectives:** 1 minute

**Assignments (additional):**

* **Quiz:** 2 minutes

**Module 3-03 Generate reports to monitor project progress**

**Total time required for module:** 15 minutes

**Discuss objectives:** 1 minute

**Demonstrate:** 5 minutes

* Generate and run common reports in Build.
* Share reports with stakeholders for transparency.
* Use dashboards to monitor project performance.

**Hands-on time:** 10 minutes

**Review objectives:** 1 minute

**Assignments (additional):**

* **Quiz:** 2 minutes

**Module 3-04 Manage project assets in Build**

**Total time required for module:** 20 minutes

**Discuss objectives:** 1 minute

**Demonstrate:** 6 minutes

* Create and organize assets using Build.
* Link assets to models.
* Update and monitor asset statuses throughout the project.

**Hands-on time:** 12 minutes

**Review objectives:** 1 minute

**Datasets:** *Architectural Model\_Imperial.rvt*

*Architectural Model\_Metric.rvt*

**Assignments (additional):**

* **Practice Exercise Module 3: Create an RFI and submittal:** 10 min Dataset: *TRU\_PC\_Datasheet\_DS\_063\_EN.pdf*
* **Quiz:** 2 minutes

**Module 4-01 Create and assign issues**

**Total time required for module:** 30 minutes

**Discuss objectives:** 1 minute

**Demonstrate:** 10 minutes

* Create and assign issues with photos, notes, and deadlines.
* Monitor and track issue progress on both web and mobile devices.

**Hands-on time:** 18 minutes

**Review objectives:** 1 minute

**Assignments (additional):**

* **Quiz:** 2 minutes

**Module 4-02 Create and manage punch lists**

**Total time required for module:** 20 minutes

**Discuss objectives:** 1 minute

**Demonstrate:** 8 minutes

* Create and manage punch lists for final closeout.
* Generate reports to monitor issue resolution and accountability.

**Hands-on time:** 10 minutes

**Review objectives:** 1 minute

**Assignments (additional):**

* **Practice Exercise Module 4: Create a punch list and generate a punch list report:** 10 min Datasets: *Photo 1 - Door Hinge.jpg* and *Photo 2 - Latch.jpg*
* **Quiz:** 2 minutes

**Next steps: End of course (additional)**

**Challenge exercise –** **Manage plumbing drawings and workflows in Build:** 60 minutes

**Datasets: Course datasets plus *corian\_sink\_802p\_PRODUCT DATA.pdf* and *Snowdon Towers Sample Plumbing\_plumbing.pdf***

**End-of-course exam questions:** 15 minutes

Discover more course content in the Construction Management collection at <https://www.autodesk.com/learn/ondemand/collection/autodesk-construction-cloud-education>