

Course challenge exercise

Develop a project using preconstruction workflows in ACC

In this course challenge, begin by naming files in accordance with the ISO 19650 standard and uploading the files into Docs subfolders (use the provided dataset files for the Course Challenge). In Model Coordination, federate and review the constructability of the building information models. In Cost Management, create budgets for each task and create a main contract with the owner along with subcontracts for key scopes. Connect project deliverables to preconstruction management into one coordinated process.

Complete the required activities:

- Use the BIM Execution Plan (**dataset files-course videos/BEP example**) to rename the building information models (**dataset files-course challenge/CC Architectural Model, CC Structural Model, CC Mechanical Model, and CC Plumbing Model**) in accordance with the ISO 19650 file naming standard. Upload them into the appropriate subfolder in ACC for use in model coordination.
- Federate building information models in the Model Viewer and transform their coordinates to align with one another. Save a federated model view.
- Use filters to create and save views for each level of the building. Run each model against one another in clash tests. Identify and create 2 Issues for each level. Export an Issues report.
- Create a main contract with the project owner to represent the total project budget. Import the project budget (**dataset files-course challenge/Project Budget Updated.xlsx**) and link this contract to the appropriate budget items.
- Create subcontracts for the two subcontracted scopes, steel and plumbing, by allocating budget items from the main contract.
- Import the project schedule (**dataset files-course challenge/Project Schedule Updated.xer**) into Build and link schedule milestones to budget line items for each subcontract.
- Create a cash flow forecast with 2 major distribution items from each subcontracted scope.

Success Criteria:

- **Accurate federation and coordination:** The building information models are aligned and have been split up into saved views for coordination. Clash tests were run, and issues were pinned to model elements.
- **Effective transfer to ACC:** Building information models were named in accordance with the ISO 19650 file naming standard and added to the appropriate project subfolder so as to be linked to a coordination space.
- **Well-structured cost control setup:** Budgets are correctly created for scheduled tasks, with a main contract established for the owner and subcontracts linked to the appropriate budget line items for each major scope of work.

What to Submit:

- The **Issues report** from Model Coordination showing the coordination issues found while running clash tests for each level of the building.
- A **Cash flow report** from Cost Management, including the distribution items from the project budget and the cost forecast S-curve chart.
- **Invite the instructor to your ACC project** to review the schedule, budget, and contracts directly within the platform.

Grading Rubric

	Advanced	Proficient	Basic	Emerging
ISO 19650 file naming and data organization	All models are renamed exactly in accordance with ISO 19650 using the BEP.	Most files follow ISO 19650 with minor formatting or metadata inconsistencies that do not impact usability.	File naming partially follows ISO 19650, but errors create confusion.	Files are incorrectly named or not renamed, making them noncompliant with ISO 19650.
Docs subfolder set-up	Files are uploaded into the correct ACC subfolders in alignment with ISO 19650 folder structure.	Files are placed in mostly correct folders, with minor location errors.	Files are uploaded but folder structure is inconsistent.	Files are disorganized, misplaced, or missing from required folders.
Model federation and coordination	All building information models are properly federated and accurately aligned with shared coordinates. A federated model view is saved.	Models are federated but are not aligned with shared coordinates. A federated model view is saved.	Models are not properly federated, or models are missing from the federated view. A federated model view is saved.	Models are not properly federated or are missing. A federated model view is not saved.
Clash detection and issue creation	Level-based views are correctly created, clash tests are run for each level, and 2 issues are created per level. An issues report is exported.	Clash tests and issues are created for most levels with minor errors. There are less than 2 issues created per level. An issues report is exported.	Clash detection is partially completed or not every model has been tested. Issues were created but not for every level. An issues report was not exported.	Clash tests are missing or improperly run. Issues are not created. An issues report was not exported.
Cost Management budgets and contracts	Budget line items align to scheduled tasks; owner contract and 2 subcontracts are created and correctly linked to budget items.	Budget and contracts are created and mostly linked with minor errors.	Budget or contracts are partially created or misaligned with tasks.	Budgets and contracts are missing or not linked to the schedule.
Cash flow forecast and reporting	Cash flow forecast includes at least 2 well-defined distribution items per subcontract and produces a clear, accurate S-curve.	Cash flow forecast is created and mostly accurate with minor distribution or timing errors.	Cash flow forecast is partially built with less than 2 distribution items or is limited to a single subcontracted scope of work.	Cash flow forecast is missing or incorrect.