Exercise duration: ~60 minutes

# Course challenge exercise – Grading rubric

# Convert 2D plans to a 3D information model

Criteria: Convert 2D plans to a 3D model of the house. Link the floor plan drawing onto the base floor plan level. Manually or automatically create the walls. Then add the doors and windows before adding and exporting asset information.

**Complete the required activities:**

* **Task 1:** Create a 3D Revit project model using a 2D AutoCAD drawing as reference. Convert the 2D lines to walls before adding windows and doors to the 3D model.
* **Task 2:** Add assetinformation from an AIRto a Revit project model**.**
* **Task 3:** Export information from a 3D Revit project information model and share with stakeholders adhering to project naming conventions.

What to Submit:

* Direct your students to submit their design in a format that works well for you to review and critique. Here are some suggestions:
  + Share the design with your instructor through ACC.
  + Save the RVT file to a school submission dropbox.
  + Save the COBie XLSX file to ACC or upload to a school submission dropbox.

**Grading rubric:**

Use the provided schedules in the Revit model to grade the accuracy.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Criteria** | **100%** | **50%** | **25%** | **0%** |
| **Advanced** | **Proficient** | **Basic** | **Emerging** |
| **Exterior Walls 20 pts** | Length of Exterior wall between  58600 - 58650 | Length of Exterior wall between  58400 - 58850 | Length of Exterior wall between  58200 - 59050 | Outside of this range |
| **Interior Walls**  **20 pts** | Length of Interior wall between  59000 - 59100 | Length of Interior wall  between  58500 - 59500 | Length of Interior wall  between  58000 - 60000 | Outside of this range |
| **Doors**  **10 pts** | Total cost 2272 exactly | Total cost between  2250 - 2290 | Total cost between  2200 - 2340 | Outside of this range |
| **Information in the Revit model**  Select an exterior wall and click Edit Type: **10 pts** | Must have Ss\_25\_20\_70 | Ss\_25\_20\_\* | Ss\_25\_\* | Any Uniclass2015 codes |
| **Information in the Revit model**  Select an interior wall and click Edit Type: **10 pts** | Ss\_25\_10\_32\_45 | Ss\_25\_20\_\* | Ss\_25\_\* | Any Uniclass2015 codes |
| **Information in the Revit model**  Select a door and click Edit Type: **10 pts** | Ss\_25\_30  and  Pr\_30\_59\_24\_97 | Ss\_25\_30  or  Pr\_30\_59\_24\_97 | Ss\_25\_\*  or  Pr\_30\_\* | Any Uniclass2015 codes |
| **RVT file exists**  **3 pts** | RVT format | RTE format | Any other format | - |
| **COBie schema exists**  **3 pts** | XLXS format | Any other format | - | - |
| **Revit project file name**  **7 pts** | All 7 fields in name correct | remove 1 point for each incorrect field. | - | - |
| Revit file should be named: **PRJ001-ARC-ZZ-00-M3-A-0001** remove 1 point for each incorrect field.  *Note, will accept -ZZ- for spatial breakdown field for full point as this project contains a single*  *level, so could be argued it is “all” levels (PRJ001-ARC-ZZ-ZZ-M3-A-0001).* | | | | |
| **COBie schema file name**  **7 pts** | All 7 fields in name correct | remove 1 point for each incorrect field. | - | - |
| COBie schema should be named **PRJ001-ARC-ZZ-00-IE-A-0001** remove 1 point for each  incorrect field.  *Note, will accept -ZZ- for spatial breakdown field for full point as this project contains a single*  *level, so could be argued it is ‘all’ levels (PRJ001-ARC-ZZ-ZZ-IE-A-0001).* | | | | |

Total score: / 100