

# Lesson Plan (for educators)

## Digital Construction



### Lesson plan - 2hrs

#### AIM:

Developing your Digital Construction modelling skills in efficiency and speed.

#### ACTIVITY:

Watch the video tutorial series in full before attending this class (flipped classroom).

1. Watch the video tutorial, pausing after each step to give you the time to perform the task yourself.
2. Once the task has been completed satisfactorily, move onto the next video tutorial.
3. After completing all the tutorials, use your new skills and the drawing provided to create the level 01 internal walls, ceilings, windows and doors.
4. Discuss the 'top tips' and evaluate how they can improve your efficiency in accuracy and/ or time.

### Suitable for

Level 3 Architectural Design / Digital Construction Qualification.

### Resources needed

1. Video & LMS access (link)
2. Task brief
3. Marking criteria/scheme
4. Infrastructure list
5. H&S checklist
6. Skill fact sheet (WSUK)
7. End of assessment quiz

### Skills

Time management, focus, reflection, computer literacy, design, understanding 3D space, visualising complex 3 dimensional models.

### Learning outcomes

After completing this module, learners will be able to:

- create a multistorey architectural project information model (PIM)
- create walls within an architectural project information model (PIM)
- add windows and doors to a multistorey PIM
- create ceilings and floors to a multistorey PIM
- create a roof in a multistorey PIM
- collaborate with other professional designers to link elements into a multistorey PIM.

### Delivery modes

1. Students can go through the online materials independently – either at your facilities, if you have access to enough computers, or can go through the materials at home in their own time.
2. You can download and print all relevant resources, access the video demo and deliver the activity in the classroom.

Section	Timings	Key teaching points
Infrastructure & H&S checklist	10 minutes	Prepare for the activity by ensuring the video content and drawing is ready to use and that all students have access to the software and the chosen storage drive to create a folder and project file to save work in to.
Introduction	10 minutes	<p>Introduce the topic and its relevance.</p> <p>Discuss the following 'Top tips':</p> <ul style="list-style-type: none"> <li>• save regularly</li> <li>• ensure element properties are correct before beginning to draw</li> <li>• look at your model in 3d regularly for errors</li> <li>• make sure you are using the correct element type. e.g. is it the correct window?</li> <li>• use hotkeys / keyboard shortcuts to get faster (hover over the command button and a tooltip appears, this is the keyboard shortcut or hotkey).</li> </ul>
Demonstration videos	30 minutes	<p>Play the demonstration videos and have students take note of the application of the "top tips" and how they improve accuracy and/ or speed. Click on the title below to view the demonstration video:</p> <ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Introduction to the Revit Interface</li> <li>3. Level 00 External Walls</li> <li>4. Level 00 Internal Walls</li> <li>5. Level 00 Doors</li> <li>6. Level 00 Windows</li> <li>7. Linking a Staircase Model</li> <li>8. Level 00 Ceilings</li> <li>9. Level 01 External Walls</li> <li>10. Level 01 Floor</li> <li>11. Roof</li> <li>12. Shaft Opening Between Floors</li> </ol>
Task brief	10 minutes	Familiarise yourself with the task and drawing. Plan the modelling process for each element, noting which methods would be most productive.
Complete task	50 minutes	Model each element as shown on the drawing.
Marking criteria	10 minutes	<p>Marking scheme and marking drawing is provided to record your scores.</p> <p>Do not forget to feedback to WorldSkills UK.</p>

## **Additional info:**

### **Preparation**

- make sure that you have printed all of the resources
- ensure you have access to the technology to play a video demo and access the LMS
- ensure students have access to the required drive to create folders and files.

### **Differentiation/meeting individual needs**

- some learners will be stronger than others in various stages of the pipeline. Some may be strong artists, others better at the technical aspects. Have learners support each other with their specialties.