

**Project Management & BIM**

**CM Year 4 2020-2021**

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**Assignment 1 (30%)- BIM Application Integration**

Subject:

Course:

Session: Lecturer:

In this assignment you are required to create a Revit Model of a 2 storey dwelling, a Microsoft Project Gantt chart, a 4D Schedule in Navisworks, and a cost profile based on the data from the project plan and the Revit Model. The key deliverables for this project are:

1. Fully resourced project plan created in Microsoft Project
2. 4D project animation produced in Navisworks
3. Cost acural model created in Microsoft Excel
4. Written report detailing your approach to the assignment and your key findings

# Senario

After producing a Revit Model of a two-story house, you are to use this model to create a robust project plan for its construction and handover to the client. You are also required to create a 4D plan for its construction, and a cost accumulation graph for the duration of the build process. Your costings should include direct & indirect labour and the cost of materials. Where possible, you are required to use current market prices for materials. In cases where current market prices are not readily available, you can make estimates. Your report should provide details of your source information.

# Suggested Approach

Use Revit’s scheduling functionality to determine counts, areas and vol- umes for costings.

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Apply ’Cost’ or ’Material’ resources within Microsoft Project as appro- priate. Cost resources are easier to apply, and can be used in place of ’Material’ resources in most instances.

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Using a deliverable orientated approach (WBS) within Microsoft Project will make the process easier to manage

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Cross check your figures against known build costs for a building of similar size and complexity.

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# Report

Your report should be laid out in a professional manner, as would be done for a client or employer. This involves, *inter-alia*, a cover page, table of contents, and logical sectioning. You report must include, but is not limited to:

* Details of the methodology used to create each component

Details of how data was extracted from Revit, MS Project and any other application that you elected to use.

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* Key findings and results.

Details of any difficulties that you experienced extracting data from the applications

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Commentary on learning experience and the skills you developed during the production of this assignment.

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# Submission

Your completed assignment comprising all computer files and written report are to be zipped into a single file and uploaded to Moodle on or before the date and time indicated. Key components of the submission are:

* Revit file, modified as necessary (.rvt)
* All Navisworks files (.nwc, .nwf, .nwd)
* MPEG-4 animation file of your 4D schedule (.mp4)
* Excel file (.xlsx)
* Word file (.docx)

# Late Submission

Failure to submit your assignment on or before the date and time indicated on Moodle will result in a penalty of 5% per day or part thereof.

# Marking Scheme

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| --- | --- | --- | --- |
| Element |  | Proportion |  |
| **Revit file**  **MS Project Plan** |  | **20%**  **20%** |  |
| **Navisworks Animation** |  | **20%** |  |
| **MS Excel Costing and Graph** |  | **20%** |  |
| **Final Report** |  | **20%** |  |