UNIVERSITI TEKNOLOGI MARA

ECS 358
CIVIL ENGINEERING DESIGN PROJECT

REINFORCED CONCRETE BUILDING DESIGN PROJECT

PROJECT BASED LEARNING
(CASE STUDY)

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1.1 INTRODUCTION

Design phase is the first step to start construct a building. Design phase is where the project's features, structure, criteria for success and the objectives are all planned out. There need few parties that involves in design phase, architect, engineer, owner and project. Each of the party have different role in construction which is the engineer need to design the suitable features for the building also need to estimate the total cost by using Bill of Quantities (BQ) and Taking Off.

For this project, the student need to analyse the architectural drawing and then, do design analysis for the selected project of Double Storey Building that have been approved by the lecturer. The location for this project is in Taman Alam Shah, Daerah Klang, Selangor Daruh Ehsan by MFF Construction Sdn Bhd. Therefore, for completing this project, intermediate Double Storey Terrace House was chosen to be design starting with slab, beam, column, pad footing and staircase.

Last but not least, the students need to design the house by using manual calculation and using software, PROKON. After that, they should be able to compare the calculation between manual calculation and software calculation.

3.1 Summary of Design Works

In conclusion, the objective of this project to design the structural component for the double storey terrace house was achieved. All the requirements were followed based on the Uniform Building By Law. By conducting this project, the students were able to acknowledge the standard specification that prepared from the local authorities need to be followed.

After that, by using Microsoft project, the students can easily plan the construction plan and determined the duration for the building finished to construct. Also, from architectural drawing that had been prepared by architect, the students were able to design the structure key plan and also design the specifications that client proposed.

In addition, the students able to design the structure component by using manual calculation and software Prokon. The students were able to compare their design between manual calculation and software Prokon. Also, they can determine the different formula or method used for the Prokon software with their own manual calculation.