



**A STUDY OF HEAT GAIN IN REDUCING COOLING LOAD FOR LIBRARY
BUILDING IN UITM PERMATANG PAUH**

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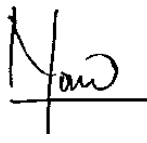
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ABSTRACT

Buildings in Malaysia are consume more electrical energy consumption. There are many factors that drive the energy consumption and demand in commercial and non-commercial building. Heat gain from sunlight is one of factors that affect the increasing of energy consumption. In this study, library building in UiTM Cawangan Pulau Pinang, Permatang Pauh kampus is chosen. This research is to investigate how different of the building orientations and sunlight heat gain affected the energy consumption. The orientation of buildings has an important influence in the inside air temperature. Study on the influence of the building orientation on the thermal sensation has been carried out. In order to achieve objective, the literature study and walk through assessment are required together information that related to study. IES VE building simulation is used to determine energy consumption based on building orientation. The best orientation of a rectangular building is when it is orientate at 5° Northeast. In conclusion, to achieve a better thermal comfort and reduce sunlight heat gain, the best orientation is needed to applied for future work. This study will able to suggest on solution to reduce heat gain of building simulation.