# CENTRE OF STUDIES FOR BUILDING SURVEYING FACULTY OF ARCHITECTURE, PLANNING AND SURVEYING UNIVERSITI TEKNOLOGI MARA

## A STUDY ON THE INDOOR ENVIRONMENT IN THE LECTURE ROOM OF PUBLIC HIGHER LEARNING INSTITUTION IN MALAYSIA

#### NORMAWANI BT ZAINUDIN

Academic Project submitted in partial fulfillment of the requirements for the degree of

Bachelor of Building Surveying (Hons)

Center of Studies for Building Surveying

Faculty of Architecture, Planning & Surveying

#### **ABSTRACT**

The indoor environmental factors considered in higher educational building in order to meet the user's requirement. Disruption of indoor environmental may constitute to reduce occupant's efficiencies and their learning process. This study was conducted to understand about indoor environment and to know the real of reading. Other than that, the research also to know the satisfaction level of user's towards condition in lecture room and to give the suggestion and recommendation to achieve the indoor environment. Lecture room with occupant and without occupant that using to achieve the objectives. The aim of study to understand the principle of good indoor environments practice in the lecture room. In addition, it also aims to identify occupants satisfaction and perception level in higher educational building and to give recommendation and suggestion based on occupants's satisfaction. The scope of respondents is selected from occupant each lecture room for case study. The research methodology use observation and measurement for indoor environment parameters such as temperature, relative humidity and air movement to know the actual reading. The result was compared with ASHRAE guideline.

i

#### **ACKNOWLEDGEMENT**

During accomplishing this research project, I am totally indebt with people who lend me hand with committed assistance and advice. Hence I wish to express my sincere thanks to those who have in any way or another, assisted me.

I wish to express my sincere gratitude and appreciation to my dear project supervisor, Mr Md Nadzari B. Mohd Jalil for her kind guidance, assistance, encouragement and understanding throughout this project.

Special appreciation and acknowledgement is extended to the respondents for all the help and the information that was provided to me in completing my data collection.

My grateful goes to my family for their support, care, understanding encouragement and blessing that have made it possible for me to complete this project paper. Last but not least to my entire friend for their support, concern and encouragement in assisting me to carry out and finalize this project.

#### **TABLE CONTENTS**

### A STUDY ON THE INDOOR ENVIRONMENT IN THE LECTURE ROOM OF PUBLIC HIGHER LEARNING INSTITUTION IN MALAYSIA

CHAPTER	TITLE
	STUDENT' DECLARARATION
	ABSTRACT
	ACKNOWLEDGEMENT
	LIST OF FIGURES
	LIST OF TABLES
	LIST OF ABBREVIATION
CHAPTER	INTRODUCTION
1	1.0 Introduction
	1.1 Background of Study
	1.2 Problem Statement
	1.3 Research Aim and Objectives
	1.3.1 Aim
	1.3.2 Objectives
	1.4 Scope and Limitation Study
	1.5 Research Methodology
	1.6 Significant of Study
	1.7 Chapter Outline

#### **CHAPTER**

#### 2 LITERATURE REVIEW

- 2.0 Introduction
- 2.1 Introduction of Indoor Environment
  - 2.1.1 Definition of Indoor Environment
- 2.2 Definition of Lecture Room
  - 2.2.1 Classification of Lecture Room
- 2.3 General Planning and Design Requirement of Lecture Room
- 2.4 Basic Standard of Lecture Room
- 2.5 Understanding of Indoor Environment
  - 2.5.1 Indoor Air Quality(IAQ)
  - 2.5.2 IAQ Guidelines and Standards
  - 2.5.3 Lighting
  - 2.5.4 Acoustics
- 2.6 Principle of Thermal Comfort
  - 2.6.1 Local Thermal Discomfort
  - 2.6.2 Factors Affecting of Thermal Comfort
- 2.7 Basic Needs Human Comfort
- 2.8 The Effect Neglected of Indoor Environment
- 2.9 ASHRAE Guidelines
- 2.10 Chapter Review