

**DIPLOMA IN MECHANICAL ENGINEERING**

**(MANUFACTURING)**

**FACULTY OF MECHANICAL ENGINEERING**

**MARA UNIVERSITY OF TECHNOLOGY**

**SHAH ALAM**

**ERGONOMICS: ASSESSMENT OF SLEEPING**

**CHARACTERISTICS OF PART 06 STUDENTS IN MECHANICAL  
ENGINEERING UiTM**

**PREPARED BY**

**MOHD FAIZAL BIN ABDUL HAMID**

**98079288**

**RIDZUAN BIN AHMED**

**98079581**

**SULAIMAN BIN OMAR**

**98079654**

**SUPERVISED:**

**MR. ISMAIL NASIRUDDIN BIN AHMAD**

**APRIL 2001**

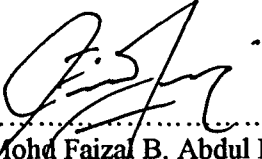
<b>CONTENTS</b>	<b>PAGE</b>
Declaration	III
Acknowledgement	IV
 <b>Chapter 1: Introduction</b>	
1.0 Introduction Of Ergonomics	1
1.1 Scope of Project	2
1.2 Objectives	3
 <b>Chapter 2: Theories, Function &amp; Waves Of Sleeping.</b>	
2.0 Theories Of Sleep Function	4
2.0.1 Why Do We Sleep?	7
2.1 Amount Of Sleep	9
2.2 Sleep Stages	11
2.3 The Introduction Of EEG	14
2.4 Brain Waves	15
2.4.1 Description The Waves	17
2.5 REM Sleep	18
2.6 Introduction Of Dreams	21
2.6.1 The Dream Cycles	22
2.6.2 Dreams Frequency	23
2.6.3 Dreams Content	23
2.6.4 Lucid Dream	23
 <b>Chapter 3: Assessment Characteristics Of Sleeping Among Mechanical Engineering Students ( Part 06 )</b>	
3.0 Introduction	25
3.1 Feed Back Analysis Of Student Mechanical	26
3.2 Duration & Sleeping Time	27
3.2.1 Male Students Living In The College	28
3.2.2 Female Students Living In The College	30
3.2.3 Male Students Rental House	32
3.2.4 Female Students Rental House	34
3.2.5 Male Students Live With Family	36
3.2.6 Female Students Live With Family	38
3.3 Problem That Always Arise Which Related To Sleep	39
3.3.1 Male Students Living In The College	39
3.3.2 Female Students Living In The College	40
3.3.3 Male Students Rental House	40
3.3.4 Female Students Rental House	41
3.3.5 Male / Female Students Live With Family	41
3.3.6 Summaries of Sleeps Disorder Suffer By Mechanical Students	42

## DECLARATION

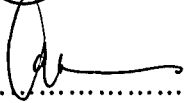
This report is submitted to the Faculty of Mechanical Engineering, Universiti Teknologi MARA in partial fulfillment of the requirement for Diploma in Mechanical Engineering (Manufacturing).

---

Prepared By;

Signature :   
Name : Mohd Faizal B. Abdul Hamid.  
UiTM No : 98079288

Date : .....

Signature :   
Name : Ridzuan b. Ahmed.  
UiTM No : 98079581

Date : .....

Signature : .....  
Name : Sulaiman b. Omar  
UiTM No : 98079654

Date : .....

---

Approved By;

Signature : .....

Date : .....

Name : Mr. Ismail Nasiruddin B. Ahmad.  
Project advisor,  
Mechanical engineering Faculty,  
UiTM Shah Alam.

Accepted by : .....

Date : .....

Tuan Haji Sunhaji Bin Haji Kiyai Abbas.  
Head Of Department,  
Diploma In Mechanical Engineering Manufacturing,  
Mechanical Engineering Faculty,  
UiTM Shah Alam.

## **ACKNOWLEDGMENT**

Our particular thanks and gratitude go to our project advisor Mr. Ismail Nasiruddin B. Ahmad for his guidance, assistance and encouragement that he has given to us during and towards the successful completion of the project. We are truly grateful to him for the introduction of new knowledge and concepts that we gained from this project.

We would also like to thank Prof. Dr. Syed Hassan Ahmad Al-Mashor and Mrs. Kamsiah from UNIMAS for their comments and contributions on specific chapter. Our heartiest thanks also goes to Dr. Zainal (private clinic in Penang ) for lending us some equipment to fulfill our final year project .

We also gratefully acknowledge the students of Mechanical Engineering UiTM and staff of FKM for their help. Of course, all of person who had involves in assessment of sleeps especially for Mohd Azrulnizam Bin Isa (sample 1) and Hanisah Bte. Sahak (sample 2). They spent a lot of time with us and provided us with a lot of information for our assessment.

Finally wish to thanks to our parents and family members for their support and encouragement during the course of our studies.

Mohd Faizal,

Ridzuan,

Sulaiman.

## 1.0 INTRODUCTION

Today, in engineering scope the most important thing that should be coincided is “Human Factor in design”. Human factor is the study of the interactions between people and the product they use and the environment in that they work and live. Other terms used to describe this field of study are engineering psychology, human engineering, ergonomics, bioengineering and biomechanics.

Our final project is related closely to human factor ( we classified as **ergonomics**). The term ergonomics was first coined in England (1949), when Greek word **ergon** (work) and **nomos** (study of) were combined to give license to this emerging discipline. Ergonomics defined the scientific study of the relationship between human being and working environment.

Ergonomics give comfortable and to avoid the existence of noncomfortable for our work system run effectively and efficiently. Actually ergonomics is not just converge on the design scope only. The management scope also has the ergonomics element that is an organization must provide a systematic and efficiency work schedule for workers to work in comfortable.

Lastly, the conclusion of ergonomics is one thing that was very important in today’s industries and it is also in daily activity. It was a combination between social science and human factor to achieve management and comfortable in optimum.