



ANTHROPOMETRIC STUDY OF UiTM STUDENTS (MALE)

MOHAMMAD FITRI BIN SHUIB

(2006689021)

A thesis submitted in partial fulfillment of the requirements for the award
of Bachelor Engineering (Hons)(Mechanical)

Faculty of Mechanical Engineering

Universiti Teknologi MARA (UiTM)

MAY 2010

ACKNOWLEDGEMENT

I would like express the deepest appreciation to my project supervisor; Mr. Abdul Halim Abdullah for his continually and convincingly conveyed a spirit of adventure in regard to research and for his excitement in regard to teaching. I also would like to thank him for his free consultancy throughout the development of this research.

Further appreciation is projected to the course coordinators, Mr. Wan Emri Wan Abdul Rahman and Mr. Alias Mohd Saman for their valuable advices and guidance in completing this research.

I am grateful to the University Teknologi MARA (UiTM) Shah Alam, Malaysia for enabling me to develop this research and I was inspired by the willingness of the co-workers at UiTM especially the technicians in the Ergonomics laboratory.

However my deepest thanks and heartfelt praise is offered to our Almighty God. It is His unending love, holiness, power, and faithfulness that inspires me to strive to glorify Him in all that I do. It is my hope and prayer that all that read this thesis will find eternal peace and joy in Him.

ABSTRACT

Anthropometry is defined as a measurement of the human body and its biomechanical characteristics. The project is carried out in order to establish the anthropometric data of male UiTM students. The development of this data will benefit the industrial designers and help university students to carry out any project that related to this data, especially in the biomechanical-related field. The data is collected among 50 male respondents, aged vary from 20 to 24 years old. 24 anthropometric dimensions were obtained from each of the respondents using a traditional anthropometer. The measuring process is carried out according to the Malaysian Standard 2003; MS ISO 7250:2003- Basic Measurements for Technological Design. All the landmarks, measuring procedures and postures are closely referred. It is often assumed that the anthropometric dimensions of the human body in a population are normally distributed, hence the mean, 5th and 95th percentile value are critical for the application of the anthropometric data. A proper definition for each of the anthropometric dimensions is included. The study also compare the significant differences in anthropometric dimension between respondents originated from 5 different regions of Malaysia; Northern Peninsular, Eastern Coast Peninsular, Central Peninsular, Southern Peninsular Malaysia and East Malaysia (Sabah & Sarawak).

TABLE OF CONTENTS

CONTENTS	PAGE
PAGE TITLE	i
ACKNOWLEDGEMENT	ii
ABSTRACT	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	ix
LIST OF FIGURES	xi

CHAPTER I INTRODUCTION

1.1	Anthropometry	1
1.2	Problem Statement	2

1.3	Project Objectives	3
1.4	Scope and Limitations	3
1.5	Significant of the Project	4

CHAPTER II LITERATURE REVIEW

2.1	Definition of Youth	5
2.2	Definition of Anthropometry	6
2.3	Definition of Ergonomics	6
2.4	Anthropometric Data	7
2.4.1	What is Anthropometric Data?	7
2.4.2	Advantages of One Dimensional Anthropometric Data	9
2.5	Statics and Dynamics Dimensions	9
2.6	Percentiles	10
2.7	Anthropometric Design Types	11
2.8	Anthropometric Studies	15
2.8.1	Anthropometric Study for People with Different Ages	15
2.8.2	Anthropometric Study for Physical Characteristics Comparison between Races and Nations	16