

**UNIVERSITI TEKNOLOGI MARA**

**DESIGN AND FABRICATION OF  
HEIGHT ADJUSTABLE STUDY  
TABLE**

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Dissertation submitted in partial fulfillment  
of the requirements for the degree of  
**Diploma**  
**(Mechanical Engineering)**

**College of Engineering**

**Feb 2023**

## **ABSTRACT**

Student nowadays sit at desks longer than they used to do something else. Either they do study in the morning at school or university or in the afternoons at home to do homework, to read, do handicrafts and to play games. No wonder that more and more students or children are complaining about their health problems, back pain, and muscle tension. Due to these problems, a height adjustable study table was fabricated. Hollow steels were cut and weld to produce table frame with two actuators inside the steels and chipboard was used as the tabletop. Minimum height for this table is 80cm and maximum height for this table can up to 1.2 meters. Therefore, a height adjustable table was successfully fabricated and can give numerous benefits to the users to prevent from backpain and others health problem.

## ACKNOWLEDGEMENT

Firstly, I wish to thank God for giving me the opportunity to embark on my diploma and for completing this long and challenging journey successfully. It has been a long and strenuous project, but I have finally reached the finish line with our final product. I owe an immense amount of gratitude to all those who contributed in one way or another; without you, this would not be possible. The completion of such a large-scale endeavor requires support from many people, so thank you for your contributions!

We are also very grateful to my lecturer and supervisors for their kindness as well as patience during the process – they never once lost faith in us despite how difficult it was at times. To everyone else involved: Thank You.

My gratitude and thanks go to my supervisor, Ts. Dr. Nurulsaidatulasyida Binti Sulong, who have provided many encouragements and comments throughout this past two semester. I also feel honored to have such a caring and lovely supervisor to support me throughout this entire time.

Finally, this dissertation is dedicated to my family for the vision and determination to educate me. This piece of victory is dedicated to all of them. Alhamdulillah.

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# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Background of Study**

Table is necessary furniture in human life. Table used as place to put anything on them. The main purpose for this project is to re-design and fabricate the study desk. At nowadays market, there are various type of desk that comes in different specifications and shape. The most common form of the desk is a variant of the ergonomic desk, having an adjustable keyboard tray and sufficient desktop space for handwriting but not desk that can be adjustable its height. Space is provided for a keyboard, mouse, monitor, printer, and speakers. This project also to develop an exist product in the market. This project also can create a creative idea and how to make the perfect design for the product and suitable for the costumers. In this project there are specific materials that use such as mild steel hollow rectangular tube as a main material for study desk also as the top of the table. As should know, desk is large, difficult to move and sometime not user friendly. To solve this problem, the desk that been design is considering all current weakness. This desk design is more compact, user friendly as we can adjust the height of the table according to users themselves.

### **1.2 Problem Statement**

Usually, a table cannot be adjusting their height. Many tables in market are not suitable their design to use in daily usage especially while during study or work. This will make user having back pain, muscle tension and health problems. Current table also uncomfortable to use for time while doing work.

### **1.3 Objectives**

- a) To analyze the ergonomics of the desk that usually been used
- b) To fabricate desk that can be adjustable to different height