

**UNIVERSITI TEKNOLOGI MARA**

**THE DESIGN OF BENCH GRINDING MACHINE  
USING HARD DISK**

**NAME: NUR IFFAH QHARINA AMRI**

**DIPLOMA MECHANICAL ENGINEERING**

**January 2022**

## ACKNOWLEDGEMENT

First and foremost, I want to express my gratitude to God for providing me with the chance to pursue my diploma and for successfully completing this long and difficult road. En, Mohd Redhwan Bin Mohammed Redza, my supervisor, deserves my gratitude and thanks.

Finally, I dedicate this dissertation to my father and mother, who had the foresight and desire to educate me. This triumphant piece is dedicated to you both. Alhamdulillah.

## **ABSTARCT**

Grinding is an important part of the final machining process. The project has intended to solve the problem faced by consumer that is the vertical wheel making the machine operators uncomfortable and the grinding machine that are using by the student of Faculty of Mechanical Engineering UiTM Bukit Besi Campus is a vertical grinder wheel. The objective to make it portable and compact enough to bring anyplace also easy to use and to design and fabricate a bench grinding machine that is in horizontal wheel condition to improve industrial work and for students mechanical engineering. To achieve all the above, many kinds of this method of studies is done, which is methodology research, research component, flowchart as guide to carried out this project, testing and lastly discussion. Based on the analysis and discussion, it can be concluded that bench grinding machine have achieve the objectives that have been discussed.

## Table of Contents

<b>ABSTARCT</b> .....	3
<b>CHAPTER 1:</b> .....	6
<b>INTRODUCTION</b> .....	6
1.2 BACKGROUND OF STUDY .....	7
1.3 PROBLEM STATEMENT .....	8
1.4 OBJECTIVES.....	8
1.5 SCOPE OF WORK.....	8
1.6 EXPECTED RESULT .....	9
<b>CHAPTER 2:</b> .....	11
<b>LITERATURE REVIEW</b> .....	11
2.1 INTRODUCTION .....	11
<b>CHAPTER 3:</b> .....	16
<b>METHODOLOGY</b> .....	16
3.1 INTRODUCTION .....	16
3.4 PRELIMINARY RESULTS.....	23
<b>CHAPTER 4</b> .....	26
4.1 Introduction .....	26
4.2 Result .....	26
<b>CHAPTER 5</b> .....	29
5.1 Conclusion.....	29
5.2 Recommendation .....	29
<b>REFERENCE</b> .....	30

## CHAPTER 1:

### INTRODUCTION

#### 1.1 INTRODUCTION

This semester's final project is one of the primary components that students must complete in semester 5 in order to meet the Mechanical Engineering Diploma's EM110 course requirements. University Technology Mara has created a number of procedures that the team must follow (UiTM). At this stage, everyone can choose the project that will be produced on their own. At the same time, the chosen project must include all of the elements found in the project's student project. Planning should seek assistance from the UiTM-appointed project director, who will prepare ideas based on the project title to be displayed. The submitted proposal must include all of the details concerning the project that the individual has chosen.

During the project introduction process, the final project introduction will be submitted to the evaluation team, which will be made up of internal and external judges before the commencement of the semester final exam. External judges have the freedom to speak themselves on any topic they consider suitable and essential. The project's progress will be recorded on a Gantt chart in accordance with the original plan, allowing each work procedure to be completed in order and with precision. The report must be produced at the same time as the final project presentation, and it must be done before the expert team evaluates the project based on the allotted score.