

UNIVERSITI TEKNOLOGI MARA

**DESIGN, ANALYSIS AND FABRICATION
OF FOOD COVER**

WAN ZAHRA' MARDIAH BINTI AMRAN

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

College of Engineering

October 2021

ABSTRACT

Food cover or *tudung saji* is widely used in this world especially in Asian country. There are a lot of creative designs of the food cover that comply with its function, which is solely to cover food. Nowadays, one design that catches the attention of people is the stackable food cover, where users could save up a lot of spaces on the table, despite having to keep a lot of food. This project is created to make little advancement to the existing food cover which is the stackable food cover. The main idea is to combine the food cover with food warmer such as microwave or oven, so that the food will stay warm throughout the day. To make sure that this project is being carried out successfully, an engineering calculation and analysis will be done along the way.

ACKNOWLEDGEMENT

Upon completing this project, I would love to show my gratitude towards those who have been helping me through my journey until the end. First and foremost, I am very grateful to the Greatest as He eases everything and makes this journey wonderful, despite having to face all challenges and obstacles.

I would also like to express my deepest thanks to my supervisor, Dr. Azizul Hakim bin Samsudin, for all the helps, guidance, and ideas in making this project better as well as in helping me to finish this course successfully, throughout both semesters.

I would like to extend my deepest gratitude to my parents, Amran bin Daud and Nik Maheran binti Talib, for never losing hope in me and always be there for me. There is nothing I could give except this piece of success. Aside my parents, I would also like to thank my brother, Wan Harun Al-Hafiz bin Amran, who has devoted most of his time and energy, just to support me to finish this project.

Not to forget, all lecturers in UiTM Pasir Gudang that have involved in helping the students to finish this course, friends, family and to all people who are involved in this project directly or indirectly. This project would not have been possible without all the helps. Thus, thank you very much.

TABLE OF CONTENTS

	Page
CONFIRMATION BY SUPERVISOR	iv
AUTHOR'S DECLARATION	v
ABSTRACT	vi
ACKNOWLEDGEMENT	vii
TABLE OF CONTENTS	viii
LIST OF TABLES	x
LIST OF FIGURES	xi
LIST OF ABBREVIATIONS	xiii
CHAPTER ONE: INTRODUCTION	
1.1 Background of Study	01
1.2 Problem Statement	02
1.3 Objectives	02
1.4 Scope of Work	03
1.5 Significance of Study	03
CHAPTER TWO: LITERATURE REVIEW	
2.1 Stackable Food Cover	04
2.2 Product Design Specifications	06
2.2.1 Material Used	06
2.2.2 Bulb	08
2.2.3 Mini Fan	10
2.2.4 Power Supply	11
2.2.5 Conclusion	13

CHAPTER ONE

INTRODUCTION

1.1 Background of Study

In this new era, a lot of new machines have been invented to help human beings in making things easier and quick. To keep up with these modernizations in technologies, an idea is created which then will be introduced through this proposal. The main idea of this project is to combine the function of food cover with the function of food warmer. As we all know, food cover and food warmer have been used almost in every country in this world. For food cover, it comes in different types of appearances, shapes and sizes [1], [2]. Usually, the food cover is produced in moderate to big sizes so that it can keep big amount of food under its cover on the dining table. The effect of having big size is that sometimes the food cover takes too many spaces on the dining table. In other situation, if the users were to keep their remaining food under the food cover, it is easy for it to become cold and soon become stale, as the food cover only functions to keep the flies away. Here comes the use of the food warmer. Users can heat up their food in any type of those appliances such as microwave, but they have to put the food into suitable container or plates, and then wait for a few minutes for the food to heat up. These are procedures to go through.

Thus the idea of making this project is created. The main purpose of this project is to design a multi-purpose food cover based on the existing product, which is stackable food cover and food warmer just like microwave. The stackable food cover is improvised by adding halogen bulb and a mini fan. Just like the function of microwave, halogen bulb will work as the element to produce enough heat to warm up the food meanwhile the mini fan will help the heat to transfer equally to the whole area in the food cover. If the product is successfully invented, not only it can save up spaces, it can also ensure that the food stays warm. To conclude, this multi-purpose food cover will make our life easier and will be a great helper to its users.