KEMENTERIAN PENDIDIKAN TINGGI
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI

POLITEKNIK MALAYSIA
TUN SYED NASIR

DIPLOMA IN FOOD TECHNOLOGY

DEPARTMENT OF CHEMICAL AND FOOD TECHNOLOGY

PROGRAM HANDBOOK

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CONTENTS

Introduction

Diploma in Food Technology (DTM) is a full-time programme consisting of five academic semesters and one industrial training semester. This programme is intended to offer students multidisciplinary studies in food science, food technology, food quality analysis, and research and innovation. These courses are designed to produce creative, innovative, and productive graduates who can meet and exceed the expectations of the food industry. Furthermore, this program is designed parallel to the notion of the National Agrofood Policy 2021–2030 (DAN 2.0). In the previous decade, the country's agro-food sector grew at a rapid pace. Despite numerous challenges, the sector's contribution to gross domestic product (GDP) has increased by an average of 6.8% per year during the implementation period of the National Agrofood Policy 2011–2020. DAN 2.0 was enacted as part of the government's effort to ensure food security by transforming the country's food system. DAN 2.0 also supports the government's current policies, such as the Shared Prosperity Vision 2030 (WKB 2030), the 12th Malaysia Plan, the National Fourth Industrial Revolution (4IR) Policy, and the Malaysian Digital Economy Blueprint, as well as other sectoral initiatives.

Food processing accounts for approximately 10% of Malaysia's manufacturing output. The food processing sub-sector plays an important role as Malaysia moves steadily towards building a more diversified economy, with the next wave of business and investment opportunities being in high-value food product manufacturing. Food exports from Malaysia were valued at approximately 44.61 billion Malaysian ringgit in 2022, an increase from the previous year. However, Malaysia's reliance on food imports keeps it a net importer, with annual imports of more than RM40 billion for the same year. In 2022, the import value of food to Malaysia was approximately 75.71 billion Malaysian ringgit, an increase from 63.65 billion Malaysian ringgit in the previous year. As a result, revolutionization of the food processing industry and providing adequate as well as competent graduates are crucial to ensure a sustainable food supply. As stated in the Malaysia Education Blueprint 2015–2025, there is currently a shortage of TVET workers in 10 of the 12 National Key Economic Area (NKEA) sectors, which would be compensated by a 2.5-fold increase in TVET enrolment by 2025.

Program Synopsis

Diploma in Food Technology is designed to produce graduates with food science and technology knowledge as well as skills to meet the growing demand in the food industry or to be successful entrepreneurs. The structure of the programme focused on the food technology field such as food science, food technology, food quality analysis, research and innovation. The curriculum designed to equip students with the practical skills and industry-relevant knowledge needed to excel in the dynamic world of food production. With experienced lecturers who are experts in the field, hands-on training in state-of-the-art laboratories, and strong partnerships with leading food companies, our graduates gain a competitive edge in the job market.

From product development, food processing to quality control and adherence to food safety standards, our program prepares students for diverse roles in the food industry. Overall, this program is a gateway to a dynamic and impactful career in the food industry. Through a curriculum that combines theory with hands-on practice and a commitment to staying ahead of trends, we empower our students to become leaders in food production, quality, and innovation.

Job prospect

This programme provides knowledge and skills in food technology that can be applied to a broad range of careers in the food industry. The knowledge and skills that students acquire from the programme enable them to find positions in the job market as:

a. Food Technologist Assistant
b. Quality Control Executive
c. Production Executive
d. Production Supervisor
e. Quality Assurance Supervisor

f. Microbiologist Assistant
g. Food Analyst Assistant
h. Food Inspector Assistant
i. Research Officer Assistant
j. Entrepreneur

Program aim

This program aim that graduates have the potential to foster responsible, creative, and innovative senior assistant food technologists in supporting the country aspiration towards becoming a regional food production and distribution hub.

Program Educational Objectives (PEO)

The Diploma in Food Technology should be able to produce food technologist assistant graduates who are:

PEO1: apply fundamental knowledge, understanding and technical skills of food technology in identifying and assisting to provide solution related to food technology.

PEO2: integrate values, attitudes, professionalism, and social skills in engaging with the society and stakeholders in food technology.

PEO3: alternately adopt the roles of a leader and a team member to communicate effectively in providing technical solutions for any problems related to food industry.

PEO4: engaged in food technology activities to embark entrepreneurial skills for career advancement and innovatively assist to manage resources and information.

Program Learning Outcome (PLO)

Upon completion of this programme, students should be able to:

- possess relevant knowledge of technology fundamentals on well-defined procedures and practices in the food science and technology field.
- propose and employ current tools and techniques to resolve well-defined problems related to the food science and technology field.
- establish basic investigative and significant thinking abilities to resolve well-defined problems in the food science and technology field.
- communicate and clearly explain several viewpoints for social, academic, and professional purposes.
- illustrate the understanding of the issues related to society and the subsequent responsibilities appropriate to the extended well-defined food technology practices.
- acknowledge the requirement of career establishment and to employ independent continuing learning in specialized technical knowledge of food science and technology.
- illustrate a consciousness of management and technopreneurship routine in real food science and technology perspective.
- illustrate ethical awareness and professionalism.
- illustrate leadership character and work efficiently in diverse technical team.

List of staff

DR HJ NOR HAIRUL BIN PALAL

Ts SAZALIANA BINTI SAPIAN

NORASHIKIN BINTI MOHD ZAIN

RAHIMAWATI BINTI ABDUL RAHIM

KHAIREDZA RAHMI BINTI A.HAMID

NOR HASHINA BINTI BAHRUDIN

DR. NOORSABRINA BINTI M SALBI

HAFSAH BINTI KASTU

NOR DINA BINTI SAKARIA

List of staff

NUR ATIQAH BINTI AS'ARI

SITI SYAZWANA BINTI MD ISHAK

MUHAMMAD AKMAL BIN JELANI

MUHAMAD HAFIZUDDIN BIN RAZLI

AZIERAH ZAWIYYAH BINTI AZMI

NUR HAWA BINTI THAHARUDDIN

NABILLA HUDA BINTI BAHARUDDIN

SITI NORHAZIRAH BINTI RAHIM

SEE HUI YONG

List of staff

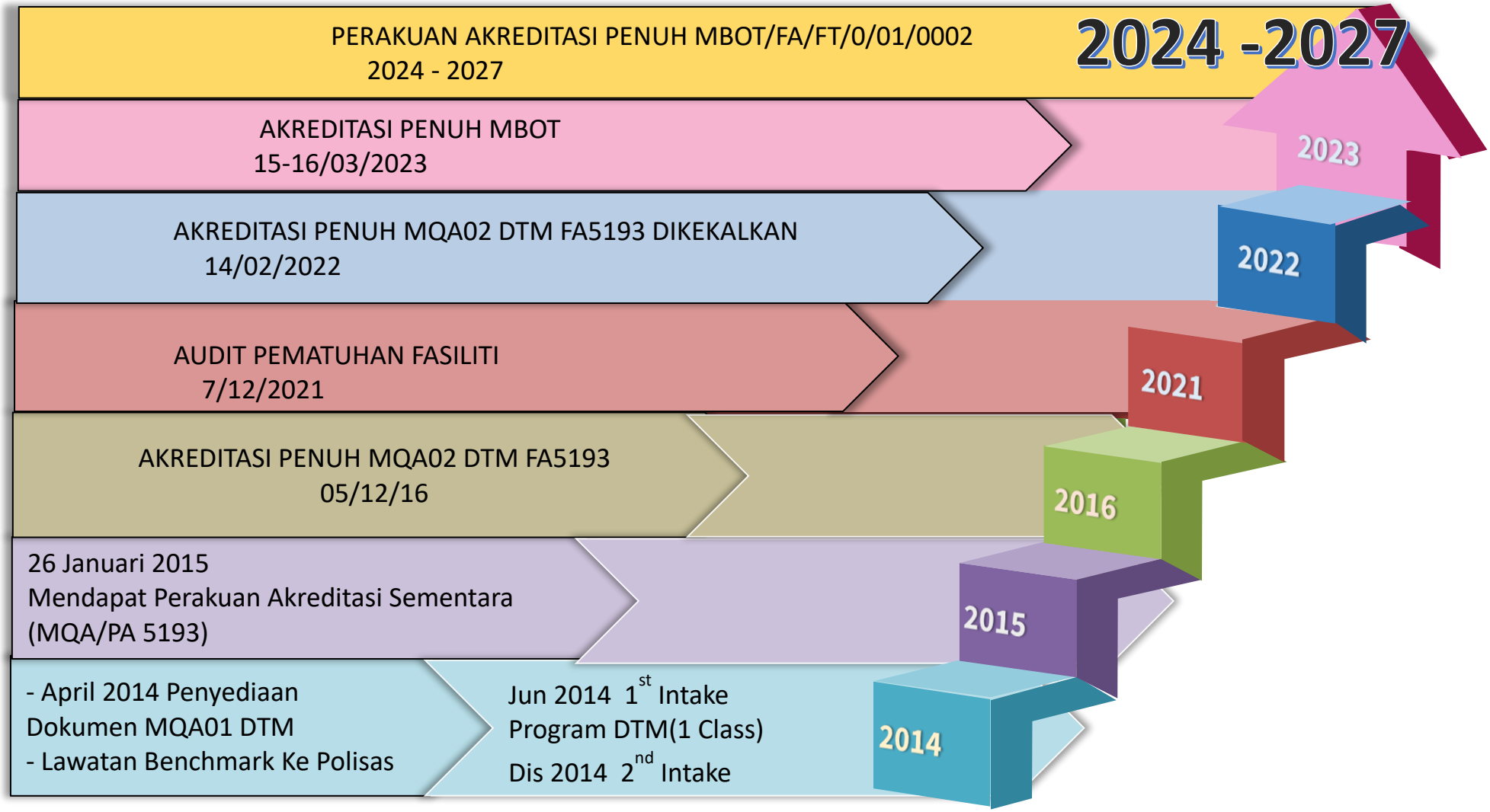
WAN AHMAD FIKRI BIN WAN AZIZ

MOHAMAD AFIFI BIN ISMAIL

NUR ADILA BINTI BASARI

RAZ ZARINDA BINTI MOHD RASHID

KRONOLOGI PROGRAM DTM



PROGRAMME STRUCTURE

DIPLOMA IN FOOD TECHNOLOGY

COURSE CODE	COURSE NAME	COMPONENT	CREDIT HOURS	CONTACT HOURS (F2F / Guided Learning)			
				L	P	T	O
SEMESTER 1							
MPU21072	Penghayatan Etika dan Peradaban	General	2	14	0	28	0
MPU24XX1	Unit Beruniform 1	General	1	0	28	0	0
MPU24031	Sukan 1	General					
MPU24041	Kelab / Persatuan 1	General					
DUE10112	Communicative English 1	General	2	14	0	28	0
DBM10213	Mathematics for Technology	Technology	3	28	0	28	0
DMT10283	Chemistry 1	Technology	3	28	42	0	0
DMT10293	Fundamental of Microbiology	Technology	3	28	42	0	0
DMT10302	Introduction to Food Industry	Technology	2	28	0	0	0
TOTAL			**16**	**336**			

L – Theory P – Practical T – Tutorial O – Other

COURSE CODE	COURSE NAME	COMPONENT	CREDIT HOURS	CONTACT HOURS (F2F / Guided Learning)			
				L	P	T	O
SEMESTER 2							
MPU23182	Sains, Teknologi dan Kejuruteraan Dalam Islam *	General	2	14	0	28	0
MPU23172	Nilai Masyarakat Malaysia **	General					
MPU24XX1	Unit Beruniform 2	General	1	0	28	0	0
MPU24051	Sukan 2	General					
MPU24061	Kelab / Persatuan 2	General					
DUW10032	Occupational, Safety and Health	Technology	2	28	0	0	0
DMT20313	Chemistry 2	Technology	3	28	28	0	0
DMT20323	Food Chemistry	Technology	3	28	28	0	0
DMT20333	Food Microbiology	Technology	3	28	28	0	0
DMT20343	Food Preservation	Technology	3	28	28	0	0
TOTAL			**17**	**322**			

L – Theory P – Practical T – Tutorial O – Other

COURSE CODE	COURSE NAME	COMPONENT	CREDIT HOURS	CONTACT HOURS (F2F / Guided Learning)			
				L	P	T	O
SEMESTER 3							
MPU22062	Entrepreneurship	General	2	14	0	28	0
DUE30122	Communicative English 2	General	2	14	0	28	0
DMT30353	Food Quality Control and Assurance	Technology	3	28	28	0	0
DMT30363	Processing Technology of Animal Products	Technology	3	28	42	0	0
DMT30373	Processing Technology of Plant Products	Technology	3	28	42	0	0
DMT30383	Fats and Oils Technology	Technology	3	28	28	0	0
TOTAL			**16**	**336**			

L – Theory P – Practical T – Tutorial O – Other

COURSE CODE	COURSE NAME	COMPONENT	CREDIT HOURS	CONTACT HOURS (F2F / Guided Learning)			
				L	P	T	O
SEMESTER 4							
DUG30032	Green Technology Compliance	Technology	2	14	28	0	0
DMT40393	Instrumental Analysis of Food	Technology	3	28	28	0	0
DMT40403	Statistics for Food Science	Technology	3	28	28	14	0
DMT40413	Food Innovation	Technology	3	14	56	0	0
DMT40423	Food Packaging	Technology	3	42	0	0	0
	Elective 1	Technology	2	28	0	14	0
TOTAL			**16**	**322**			

L – Theory P – Practical T – Tutorial O – Other

COURSE CODE	COURSE NAME	COMPONENT	CREDIT HOURS	CONTACT HOURS (F2F / Guided Learning)			
				L	P	T	O
SEMESTER 5							
DUE50132	Communicative English 3	General	2	14	0	28	0
MPU22071	Kursus Integriti Anti-Rasuah	General	1	0	0	28	0
DMT50433	Food Safety Management	Technology	3	28	0	42	0
DMT50443	Food Plant Layout	Technology	3	28	42	0	0
DMT50454	Project	Technology	4	0	112	0	0
	Elective 2	Technology	3	28	42	0	0
TOTAL			**16**	**392**			

L – Theory P – Practical T – Tutorial O – Other

COURSE CODE	COURSE NAME	COMPONENT	CREDIT HOURS	CONTACT HOURS (F2F / Guided Learning)			
				L	P	T	O
SEMESTER 6							
DUT600710	Industrial Training	Technology	10	0	400	0	0
TOTAL			**10**	**400**			
TOTAL CREDIT HOURS			**91**				

L – Theory P – Practical T – Tutorial O – Other

COURSE CODE	COURSE NAME	COMPONENT	CREDIT HOURS	CONTACT HOURS (F2F / Guided Learning)			
				L	P	T	O
ELECTIVES							
DMT40462	Human Nutrition and Health	Technology	2	28	0	14	0
DMT40472	Post Harvest Technology	Technology	2	28	0	14	0
DMT40482	Food Engineering	Technology	2	28	0	14	0
DMT50493	Confectionary Technology	Technology	3	28	42	0	0
DMT50503	Bakery Technology	Technology	3	14	56	0	0
DMT50513	Industrial Food Microbiology	Technology	3	28	42	0	0
DMT50523	Beverages Technology	Technology	3	28	42	0	0
DUD10012	Design Thinking	Technology	1	0	0	14	28

COMPONENT	**CREDIT HOURS**	**%**
i. General	15	16
ii. Technology	76	84
TOTAL CREDIT HOURS	**91**	**100%**

L – Theory P – Practical T – Tutorial O – Other

COURSE SYNOPSIS

SEMESTER 1	
Course code and name	DMT10283 CHEMISTRY 1
Credit	3
Pre-requisite	None
Course Learning Outcome (CLO)	CLO 1: Explain the basic principles of inorganic and organic chemistry regarding matter, the Periodic Table, chemical bonds, and the properties of acids and bases in aqueous solution (C3, PLO1) CLO2: Display practical skills in laboratory experiments (P3, PLO2) CLO3: Demonstrate teamwork and responsibilities in laboratory activities and act responsibly as a team member (A3, PLO9)
Synopsis	Chemistry 1 explains the introduction to the nature of matter; atoms, ions, molecules, elements and compounds, mole concept, chemical formula, periodic table, structure of atoms and ions, bond formation; including covalent, ionic, and Van der Waals, acid and base; strength and the pH scale.

SEMESTER 1	
Course code and name	DMT10293 FUNDAMENTAL OF MICROBIOLOGY
Credit	3
Pre-requisite	None
Course Learning Outcome (CLO)	CLO 1: Describe fundamental knowledge of microbiology regarding on microbial structure, growth and control to assist in providing solution to food industry (C2, PLO1) CLO2: Demonstrate basic microbiology experiment that are appropriate for the food industry (P3, PLO2) CLO3: Demonstrate teamwork and responsibilities in laboratory activities and act responsibly as a team member (A3, PLO9) –
Synopsis	Fundamental of Microbiology consists of microbiology principles, characteristics and classification of microorganisms, ecology of microorganisms, cell metabolism, factors controlling growth and reproduction of the microorganisms, cultivation, and microorganism control.

SEMESTER 1	
Course code and name	DMT10302 INTRODUCTION TO FOOD INDUSTRY
Credit	2
Pre-requisite	None
Course Learning Outcome (CLO)	CLO 1: Describe the relevant knowledge of technology fundamentals in food industry (C2, PLO1) CLO2: Discuss problem-solving techniques to address common issues related to the food industry such as food safety concerns or sustainability challenges (A2, PLO5)
Synopsis	Introduction to food industry will cover different categories of the industry, as well as common food processing methods. It will also include relevant agencies, both government and non-government and their functions in the Malaysian food industry. The discussion will also touch on food laws, regulations, and issues related to food technologies.

SEMESTER 2	
Course code and name	DMT20313 CHEMISTRY 2
Credit	3
Pre-requisite	DMT 10283 CHEMISTRY 1
Course Learning Outcome (CLO)	CLO 1: explain the principles and knowledge of inorganic and organic chemistry (C3, PLO1) CLO 2: perform laboratory experiments related to inorganic and organic chemistry (P4, PLO2) CLO 3: demonstrate teamwork and responsibilities in laboratory activities and act responsibly as a team member (A3, PLO9)
Synopsis	Chemistry 2 explain principles of chemistry regarding volumetric analysis, redox reaction, chemical kinetic and equilibrium, fundamentals of organic compound, functionals group and International Union of Pure and Applied Chemistry (IUPAC) naming system.

SEMESTER 2	
Course code and name	DMT20333 FOOD MICROBIOLOGY
Credit	3
Pre-requisite	None
Course Learning Outcome (CLO)	CLO 1: apply fundamental knowledge of microorganisms in food, food-borne disease, food spoilage and microbiology analysis technique relating to food products (C3, PLO1) CLO 2: perform microbiology experiment production through laboratory group work (P3, PLO2) CLO 3: demonstrate teamwork in laboratory activities and act responsibly as a team member (A3, PLO9)
Synopsis	Food Microbiology covers the characteristics and nature of microorganisms in food; factors affecting the rate of growth; microbiological aspects of food processing and food preservation; food spoilage, food-borne diseases, and microorganisms as indicators of food safety.

SEMESTER 2	
Course code and name	DMT20343 FOOD PRESERVATION
Credit	3
Pre-requisite	None
Course Learning Outcome (CLO)	CLO 1: explain the basic principle of food preservation regarding preserving the quality of food through the preservation techniques (C2, PLO1) CLO 2: display preservative techniques through laboratory activities (P3, PLO2) CLO 3: demonstrate the application of professionalism and ethical awareness through a preservation technique (A3, PLO8)
Synopsis	Food Preservation provides the fundamental understanding of food preservation techniques that are used to preserve the quality of foods through the application of heat processing, refrigeration and freezing, dehydration & concentration, osmosis, fermentation and chemical preservation. In addition, the new and emerging preservation technologies will also be considered. The course also includes a brief information of food law and legislation which enables the students to gain knowledge about the requirements of the Food Act 1983, Food Regulations 1985 and other relevant laws associated with foods.

SEMESTER 3	
Course code and name	DMT30353 FOOD QUALITY CONTROL AND ASSURANCE
Credit	3
Pre-requisite	None
Course Learning Outcome (CLO)	CLO 1: apply knowledge of food quality control and assurance in food technology industry (C3, PLO 1) CLO 2: perform laboratory experiments related to food quality control (P4, PLO 2) CLO 3: demonstrate good information retrieval and management with autonomous learning towards food quality control and assurance (A3, PLO 6)
Synopsis	Food Quality Control and Assurance consists of an introduction to food quality control, quality assurance, quality specification, procedures of quality control, sensory evaluation, sampling as well as recording and reporting to ensure the consistency and overall quality of food products.

SEMESTER 3	
Course code and name	DMT30383 FATS AND OIL TECHNOLOGY
Credit	3
Pre-requisite	None
Course Learning Outcome (CLO)	CLO 1: integrate the knowledge and understanding of fats and oils technology(C4, PLO 1) perform laboratory experiments related to fats and oils technology (P4, PLO 2) propose relevant problem-solving techniques for any issues related to the fats and oils industry(A3, PLO 6)
Synopsis	Fats and Oils Technology provides knowledge of fats and oils and their physical and chemical characteristics including modifications process. It has covered the analysis and the products from fats and oils. This course also acknowledges the importance of fats and oils industry in Malaysia.

SEMESTER 3	
Course code and name	DMT30363 ROCESSING TECHNOLOGY OF ANIMAL PRODUCTS
Credit	3
Pre-requisite	None
Course Learning Outcome (CLO)	CLO 1: apply the relevant knowledge and method in the processing operation of animal products technology produce selected animal products through laboratory group work demonstrate entrepreneurial interest in animal-based product (C3, PLO1) CLO 2: (P4, PLO2) CLO 3: (A3, PLO7)
Synopsis	Processing Technology of Animal Products contains the basic principles of processing animal-based products such as meat, poultry, milk, egg, and fish product. This course also exposes students to the processing method, equipment operation used and quality control of the products.

SEMESTER 3	
Course code and name	DMT30373 ROCESSING TECHNOLOGY OF PLANT PRODUCTS
Credit	3
Pre-requisite	None
Course Learning Outcome (CLO)	CLO 1: apply the concept in plant process technology to solve problems pertaining to the processing of plant products produce selected plant products through laboratory group work demonstrate entrepreneurial interest in plant-based product (C3, PLO1) CLO 2: (P4, PLO2) CLO 3: (A3, PLO7)
Synopsis	Processsing Technology of Plant Products covers the concept and application of three main topics namely fruits, vegetables, and cereals. The processing of fruits and vegetables consist of canned product, juice, jam and sauces. Rice, wheat and their products will be covered under grains. Overall it looks into the method, functions of ingredients as well as the quality control involved.

SEMESTER 4	
Course code and name	DMT40393 INSTRUMENTALS ANALYSIS OF FOOD
Credit	3
Pre-requisite	None
Course Learning Outcome (CLO)	CLO 1: explain briefly the techniques, general principles and application of different instruments in food analysis according to appropriate methods (C3, PLO3) CLO 2: perform practical skills and techniques in conducting food analysis in the laboratory (P4, PLO2) CLO 3: demonstrate teamwork and leadership in laboratory activities and act responsibly as a team member (A3, PLO9)
Synopsis	Instrumentals Analysis of Food introduces the concept of analytical chemistry and familiarizes students with at least four major instruments used in food analysis. Familiarization with the instruments includes an introduction to the techniques, basic principles, schematic diagrams, methods, preparation of standards and samples, precautions, and application in food analysis. Emphasis is given to the acquisition of basic practical skills in the preparation and handling of selected analytical instruments.

SEMESTER 4	
Course code and name	DMT40403 STATISTICS FOR FOOD SCIENCE
Credit	3
Pre-requisite	None
Course Learning Outcome (CLO)	CLO 1: solve statistical problems through application of statistic concepts, basic formulae and inferential statistical tests (C4, PLO3) CLO 2: perform practical skills to analyze statistical data using computer software (P4, PLO2) CLO 3: demonstrate the ability to analyze and interprete data to assess the impact of food - related practices on societal (A3, PLO5)
Synopsis	Statistics for Food Science will provide students with basic knowledge on descriptive statistics, and inferential statistics which commonly used in the field of science and technology. This course also introduces the application of computer software for data

	presentation and analysis. Students will be able to describe and analyze data in food science and food technology-related situations through application of the knowledge and skills gained.

SEMESTER 4	
Course code and name	DMT40413 FOOD INNOVATION
Credit	3
Pre-requisite	None
Course Learning Outcome (CLO)	CLO 1: integrate the scientific and technical element in inventing new food product (C4, PLO3) CLO 2: display an innovative product using a product development process (P4, PLO2) CLO 3: organize technopreneural and good managerial skills throughout the innovation (A4, PLO7)
Synopsis	Food Innovation explores creative ideation, food science principles, sensory evaluation, safety regulations, packaging design, marketing strategies, production optimization, entrepreneurship, and future trends to equip professionals with the skills to conceptualize, develop, and market innovative food products that meet consumer demands and industry standards. This subject also involves the application of scientific research and technological advancements to create products that meet the changing needs and preferences of consumers.

SEMESTER 4	
Course code and name	DMT40423 FOOD PACKAGING
Credit	3
Pre-requisite	None
Course Learning Outcome (CLO)	CLO 1: relate the appropriate packaging requirements for selected food product (C4, PLO3) CLO 2: integrate life long learning and managing information in evaluating food packaging suitability (A4, PLO6) CLO 3:

	organize communication skills in assessing regulatory requirements for food packaging (A4, PLO4)
Synopsis	Food packaging is a multidisciplinary field that combines aspects of engineering, materials science, design, and food science to create effective and innovative packaging solutions for food products. Food packaging ensures food safety, quality, and freshness from production to consumption. This subject consists of basic principles of packaging; types, properties, manufacturing methods, regulatory requirements and safety concerns of packaging materials; and package suitability of selected food commodities.

SEMESTER 4	
Course code and name	DUG30032 GREEN TECHNOLOGY COMPLIANCE
Credit	2
Pre-requisite	None
Course Learning Outcome (CLO)	CLO1: explain fundamentals and practices of green technology to achieve sustainable development goals (C3, CLS 2) CLO2: perform green technology and practices skills compliance with sustainable development goals (P4, CLS 3A) CLO3: demonstrate green technology and practices elements in line with sustainable development goals (A3, CLS 3C)
Synopsis	GREEN TECHNOLOGY COMPLIANCE course is designed to introduce students with the integration of green knowledge, skills, practices and compliances in line with sustainable development goals (SDGs). Students will be exposed to related sustainable activities in achieving SDGs which also include innovation, viability and natural resources preservation. Students will also learn other areas where green technology is implemented such as energy, transport, building, water and waste management.

SEMESTER 5	
Course code and name	DMT50433 FOOD SAFETY MANAGEMENT
Credit	3
Pre-requisite	None
Course Learning Outcome (CLO)	CLO1: analyze food safety issues and problems by employing relevant scientific approaches to develop food safety management

	CLO2: demonstrate good skill to prepare documentation required by food industry CLO3: demonstrate good managerial skills in engaging with food safety management
Synopsis	Food Safety Management course is designed to equip participants with a comprehensive understanding against food hazards in order to ensure food safety. Throughout the course, learners will explore key methodologies, including MESTI, GMP, HACCP, ISO 22000, and food safety audits, which have been widely adopted by the food industry to safeguard the quality and integrity of food products.

SEMESTER 5	
Course code and name	DMT50443 FOOD PLANT LAYOUT
Credit	3
Pre-requisite	None
Course Learning Outcome (CLO)	CLO1: analyze problems related to plant design in food industry CLO2: perform technical drawing of food plant design CLO3: organize good managerial skills systematic planning in food plant design
Synopsis	Food Plant Layout covers plant establishment requirements for safe food production. It focuses on theoretical and technical drawing aspects that suit safety standards such as ISO/TS 22000, MS1514 and MS1480.

SEMESTER 5	
Course code and name	DMT50454 PROJECT
Credit	3
Pre-requisite	None
Course Learning Outcome (CLO)	CLO1: evaluate the issue and challenges to provide solution for scientific research in food science and technology CLO2: perform practical skills in conducting research CLO3: demonstrate communication skills in food research CLO4: organize teamwork and leadership among group member

Synopsis	Project is a laboratory-based study that requires the student to carry out a research project in the field of food science and technology. It outlines the basic principles involved in the selection and choice of a research topic, the scope of the research, planning and conducting the project. The findings of the study will be written as a report as well as presented for evaluation.

SEMESTER 6	
Course code and name	DUT600710 INDUSTRIAL TRAINING
Credit	10
Pre-requisite	Fulfill the requirements of Industrial Training Guideline
Course Learning Outcome (CLO)	CLO1: perform duties in accordance with job requirements at the workplace (P4, CLS 3a) CLO2: display effective social skills at the workplace (A5, CLS 3b) CLO3: integrate values, attitudes and professionalism effectively at the workplace (A4, CLS 5) CLO4: develop responsibility of leadership and teamwork at the workplace (A4, CLS 3f) CLO5: display ability to organize information using digital technology at the workplace (P4, CLS 3d) CLO6: integrate lifelong learning attributes at the workplace (A4 , CLS 4a)
Synopsis	INDUSTRIAL TRAINING prepares students with employability skills and current industrial technologies in actual working environment. This course allows students to experience the work culture of the workplace as well as provides a platform for students to put into practice the skills and knowledge learnt. The desired attributes include organizational orientation and professional ethics, effective communication, leadership and teamwork, continuous learning and information management, as well as self-management and entrepreneurial mind at the workplace.

ELECTIVE 1	
Course code and name	DMT40462 HUMAN NUTRITION AND HEALTH
Credit	2
Pre-requisite	None
Course Learning Outcome (CLO)	CLO 1: relate the important roles of food nutrients and their effects on human health (C3, PLO3) CLO 2: demonstrate good information retrieval and management on nutrition requirement (A3, PLO6)
Synopsis	Human Nutrition and Health is a comprehensive introduction to the important role nutrition and diet play in maintaining health. This course provides an overview of macronutrients and micronutrients and an insight into their digestion and absorption as well as the effects of their deficiency and toxicity on human health. It also provides the nutrient needs of individuals for each of the major stages through the life cycle and the disturbance caused by eating disorders.

ELECTIVE 1	
Course code and name	DMT40472 POST HARVEST TECHNOLOGY
Credit	2
Pre-requisite	None
Course Learning Outcome (CLO)	CLO 1: correlate the principle of post harvest to solve problems regarding to post harvest (C3, PLO3) CLO 2: demonstrate information retrieval, management and life-long learning skills (A3, PLO6)
Synopsis	Post-Harvest Technology covers an inter-disciplinary science and techniques applied to agricultural commodities after harvesting process for the purpose to meet the food and nutritional requirements of consumers in relation to their needs.

ELECTIVE 1	
Course code and name	DMT40482 FOOD ENGINEERING
Credit	2
Pre-requisite	None
Course Learning Outcome (CLO)	CLO 1: apply basic principles of engineering in food processing by employing relevant engineering approaches (C3, PLO3) CLO 2: demonstrate problem solving skills related to food engineering (A3, PLO6)
Synopsis	Food Engineering combine basic principles of engineering to solve problems in food processing involving unit, density, temperature, pressure, principles and problems in mass balance; principles and problem solving in energy balance; principle of heat transfer; and engineering principles in freezing and refrigeration. This course also exposes students to two other principles: fluid flow and drying processes.

ELECTIVE 2	
Course code and name	DMT50493 CONFECTIONERY TECHNOLOGY
Credit	3
Pre-requisite	None
Course Learning Outcome (CLO)	CLO 1: analyze problems related to confectionery technology (C3, PLO3) CLO 2: perform practical skills in selected confectionery products through laboratory group work (P4, PLO2) CLO 3: demonstrate good management and technopreneurship skills in production of confectionery products (A4, PLO7)
Synopsis	Confectionery Technology is designed to provide students with a thorough understanding of the principles, processes, and techniques involved in the production of confectionery products. The course covers various aspects of confectionery technology, including ingredient selection, formulation, manufacturing processes, quality control, packaging, and storage

ELECTIVE 2	
Course code and name	DMT50503 BAKERY TECHNOLOGY
Credit	3
Pre-requisite	None
Course Learning Outcome (CLO)	CLO 1: interpret the bakery processing methods and the function of main ingredients (C3, PLO3) CLO 2: perform practical skills in producing selected bakery product (P4, PLO2) CLO 3: organize entrepreneurial activities based on the bakery products produced (A4, PLO7)
Synopsis	Bakery Technology Course is design to equip student with knowledge in baking technology. It covers the fundamental of baking that includes the selection of ingredients, techniques and quality control in producing various types of bakery products. Students will use technology in the production of bread and patisseries products. It also inculcates entrepreneurial mind set among the students.

ELECTIVE 2	
Course code and name	DMT50513 INDUSTRIAL FOOD MICROBIOLOGY
Credit	3
Pre-requisite	None
Course Learning Outcome (CLO)	CLO 1: analyze problems and provide solutions for fermented product (C3, PLO3) CLO 2: perform practical skills in selected fermented food production through practical assessment (P4, PLO2) CLO 3: organize good managerial skills in the production of fermented product (A4, PLO7)
Synopsis	Industrial Food Microbiology allows students to further explore fermentation in plant, dairy, and marine-based products that focuses on the study and application of microorganisms in the production, processing, and preservation of food. Microorganisms, such as bacteria, yeasts, and molds, play a significant role in the food industry, both as beneficial and potentially harmful agents.

ELECTIVE 2	
Course code and name	DMT50523 (BEVERAGE TECHNOLOGY)
Credit	3
Pre-requisite	None
Course Learning Outcome (CLO)	CLO 1: analyze problems related to beverages technology (C3, PLO3) CLO 2: perform appropriate technology in producing safe and quality beverage products (P4, PLO2) CLO 3: organize good managerial skills systematic planning in beverage industry (A4, PLO7)
Synopsis	Beverage Technology is a comprehensive course designed to provide a solid understanding of the principles and practices involved in the production, processing, and quality control of various beverages. This course specifically focuses on the application of technology in the beverage industry. It encompasses knowledge about the production processes, ingredients, equipment, and quality control techniques used in the beverage manufacturing industry.