POLITEKNIK MALAYSIA

JELI

STUDENT PROGRAMME GUIDE

DEPARTMENT OF AGROTECHNOLOGY & BIO-INDUSTRY

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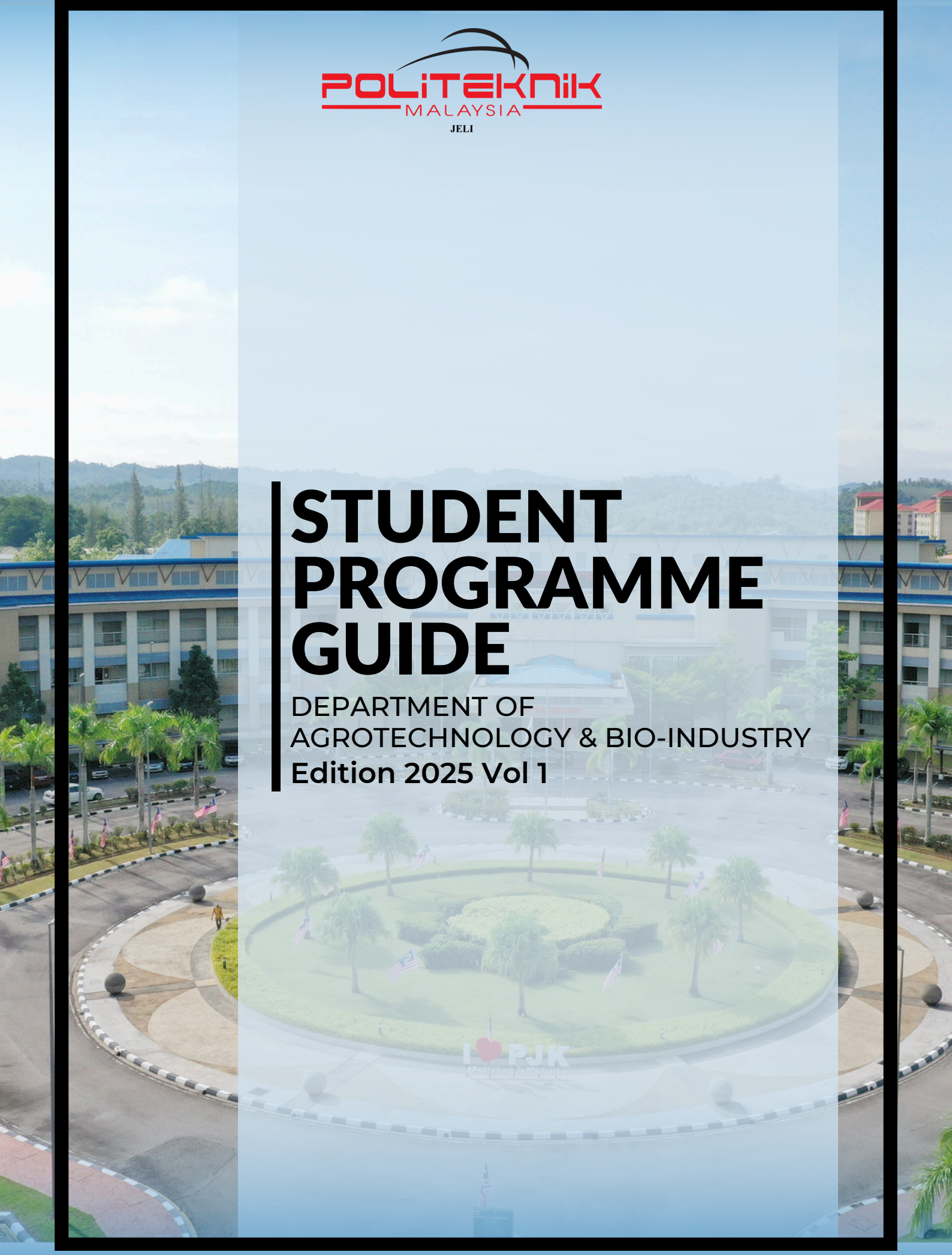

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Preface

This Student Programme Guide is designed to serve as a key reference for students enrolled in the Diploma in Agrotechnology and Diploma in Aquaculture Technology programmes. It provides a comprehensive overview of the academic structure, learning outcomes, offered courses, and both academic and non-academic requirements throughout the study duration.

Through this guide, students will gain essential information regarding their academic pathway, career opportunities, institutional facilities, and their roles and responsibilities as students in higher education. The Diploma in Agrotechnology focuses on equipping students with knowledge and practical skills in modern agriculture, including crop management, soil science, and sustainable farming technologies. Meanwhile, the Diploma in Aquaculture Technology emphasizes aquatic animal husbandry, advanced aquaculture systems, and sustainable water resource management.

This guide aims to assist students in planning their studies effectively, enhancing their learning experience, and achieving academic excellence and personal growth throughout their academic journey.

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1.0 INTRODUCTION

PJK is the 22nd polytechnic established in 2007, initially operating at the Politeknik Kota Bharu library building before officially moving to its permanent campus in Jeli, Kelantan on March 1, 2013.

This institution, spanning 114 acres, has the capacity to accommodate up to 1,500 students at a time.

Two diploma programs offered by PJK, namely Diploma in Agrotechnology and Diploma in Aquaculture Technology, have successfully obtained accreditation from the Malaysian Board of Technologists (MBOT) and received certification recognition from ISO 21001:2018 Educational Organisations Management System (EOMS).

As a technical institution, PJK is committed to producing TVET graduates who are trained, holistic, sustainable, and entrepreneurial, contributing to higher economic growth in Malaysia in line with related national policies (National Agricultural Plan, National Agro-Food Policy).

PJK has also achieved success at both national and international levels in various fields, including academics, sports, research & publication, innovation & product development, and community service.

2.0 VISION, MISSION AND EDUCATIONAL GOAL

Vision

To be the Leading-Edge TVET Institution

Mission

a. To provide a wide access to quality and recognised TVET programmes

b. To empower community through lifelong learning

c. To develop holistic, entrepreneurial and balanced graduates

d. To capitalise on smart partnership with stakeholders

Educational Goal

To produce holistic and competent TVET graduates who are capable of contributing to the national development

3.0 OUTCOME BASED EDUCATION

Outcomes Based Education focuses on student learning by:

1. Using learning outcome statements to make explicit what the student is expected to be able to know, understand or do;
2. Providing learning activities which will help the student to reach these outcomes;
3. Assessing the extent to which the student meets these outcomes through the use of explicit assessment criteria.

3.1 Learning Outcomes

In simple terms....

Specific, understandable, measurable, assessable and student-centered statements as to what a student will be able to do at the end of a period of study.

Why are these important?

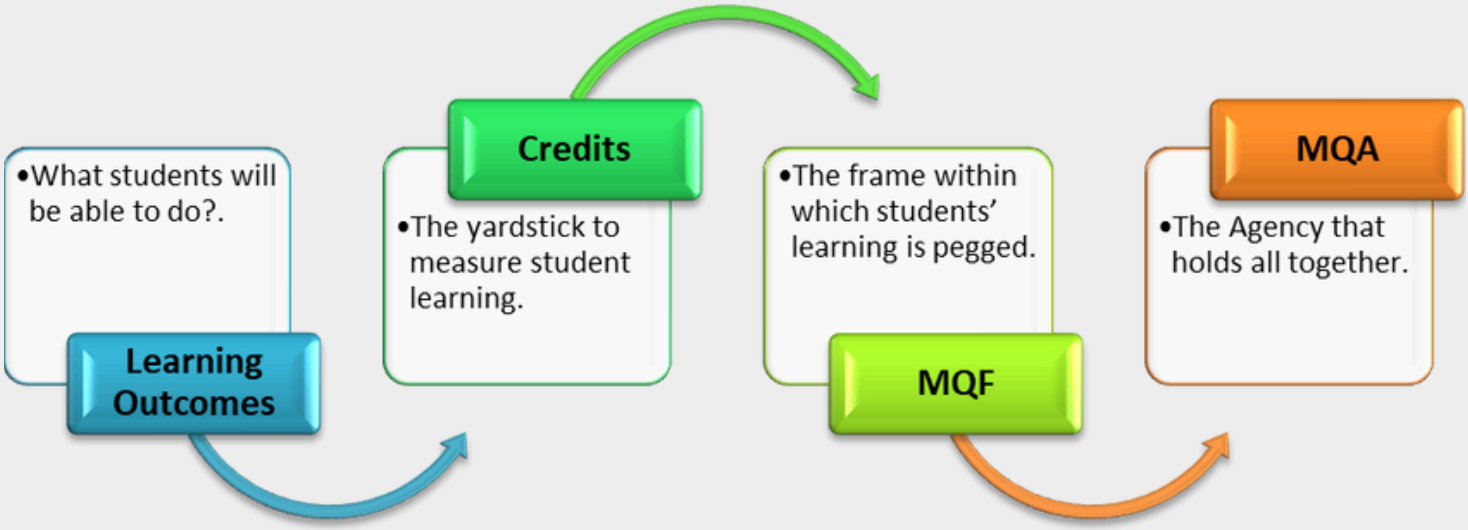
- Lead to a more student-centered approach;
- Mark a shift from the content of a course (what the teacher wants to teach) towards the outcome (what the student is able to do on successful completion of the program/course);
- Guide students in learning;
- Help staff focus on what they want students to achieve;
- Provide useful information to potential students and employers.

3.2 What is Outcome - Based Education (OBE)

Learning outcome :

- OBE is an educational process that focuses on what student can do or the qualities they should develop after they are thought.
- OBE involves the restructuring of curriculum, assessment and reporting practiced in education to reflect the achievement of high order learning and mastery rather that accumulation of course credits.
- Both structure and curriculum are design to achieve those capabilities or qualities.
- Discouraged traditional education approaches based on direct instruction of facts and standard methods.
- It require that the students demonstrate that they have learnt the required skills and content.

3.3 Accreditation Process



DIPLOMA IN **AGROTECHNOLOGY** [DAG]

4.0 Programme of Diploma in Agrotechnology

The Diploma in Agrotechnology is envisioned to produce trained human resources in the field of agricultural technology to cater the demand of National Agrofood Policies 2.0 (2021 2030). The programme shall expose students to gain knowledge and hands-on training on agricultural areas such as agricultural principles, agricultural production,machinery and technology in line with the requirements of Fourth Industrial Revolution (4.0 IR) and Sustainable Development Goal (SDG) 2030.

This programme offered for six semesters with the minimum credit required to graduate being 91 credits. The students also are required to manage agricultural projects which involves planning, cultivation, harvesting and marketing throughout the courses. Apart from that, it is compulsory for the students to undergo industrial training in related industries. This will enable students to apply the technical skills, communication skills, technopreneurship skills and adapt as well as adopt the new technologies and challenges in their future workplace that promote
lifelong learning.

4.1 Introduction of Programme Agrotechnology

Agrotechnology is the application of scientific and technological principles in agriculture. It focuses on the complete farming process which are cultivation of plants, agronomic practices, pre harvest, post-harvest and agriculture managements at all types of planting systems.

According to National Agro-Food Policy 2.0 2021-2030 (NAP 2.0), agrotechnology is one of the most competitive industries that priorities food security and nutrition while driving economic growth and enhancing the wellbeing of the nation. Furthermore, emerging of Fourth Industrial Revolution (4.0 IR), the utilization of modern technology such as internet of things (IoT), big data, cloud computing and autonomous robot provide benefits in agriculture sector to optimize productivity and quality as well as profitability.

As part of the Sustainable Development Goal (SDG) 2030 agenda, there is a great demand of human capital through Technical and Vocational Education and Training (TVET) especially to deal with the sustainability of food security and environment in becoming advanced nation in the future.

To meet the requirement, Department of Polytechnic and Community College Education (JPPKK) have established Diploma in Agrotechnology for polytechnic students. This program is aimed to equip students with the latest knowledge, sustainable technology, entrepreneurship and various skills required by the field of agrotechnology.

4.2 Programme Aim (PAI)

The programme aims to cater for the demand of National Agro-Food Policy 2.0 (2021 2030) by producing an agrotechnology expertise in supporting the ensure the competitiveness and sustainability of the agricultural industry.

4.3 Programme Educational Objectives (PEO)

The Diploma in Agrotechnology should be able to produce agrotechnologist who are:

1. Apply fundamental knowledge, understanding and technical skills of agrotechnology in identifying issues and assisting to provide solution in agriculture production.
2. Integrate values, attitudes, professionalism, and social skills in engaging with society and stakeholders in agriculture.
3. Alternately adopt the roles of a leader and a team member and communicate effectively in assisting the solution for agrotechnology challenges in community.
4. Engaged in agriculture production activities to embark entrepreneurial skills for career advancement and innovatively assist to manage resources and information.

4.4 Programme Learning Outcomes (PLO)

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

1. Possess relevant knowledge of technology fundamentals on well-defined procedures and practices in agriculture industry
2. Propose and employ current tools and techniques to resolve well-defined problems in agriculture industry
3. Establish basic investigative and significant thinking abilities to resolve well-defined problems in the agriculture industry
4. Communicate and clearly explain several viewpoints for social, academic, and professional purposes
5. Illustrate the understanding of the issues related to the society and the subsequent responsibilities appropriate to the extended well-defined technology practices
6. Acknowledge the requirement of career establishment and to employ independent continuing learning in specialized technical knowledge
7. Illustrate a consciousness of management and technopreneurship routine in real perspective
8. Illustrate ethical awareness and professionalism
9. Illustrate leadership character and work efficiently in diverse technical team

4.5 Programme Structure

SEMESTER 1							
CODE	**COURSE**	**CREDIT VALUE**	**L**	**P**	**T**	**O**	**PRE-REQUISITE**
MPU21072	Penghayatan Etika dan Peradaban	2	14	0	28	0	
DUE10112	Communicative English 1	2	14	0	28	0	
MPU24031	Sukan 1	1	0	28	0	0	
MPU24041	Kelab/Persatuan 1						
MPU24XX1	Unit Beruniform 1						
DBM10213	Mathematics for Technology	3	28	0	28	0	
DBS10052	Biological Science	2	14	28	0	0	
DBS10062	Agricultural Chemistry	2	14	28	0	0	
DYA10243	Soil Science	3	28	28	0	0	
DYA10252	Introduction to Agriculture Technology	2	14	0	28	0	
TOTAL		**17**	**350**				

4.5 Programme Structure

SEMESTER 2							
CODE	**COURSE**	**CREDIT VALUE**	**L**	**P**	**T**	**O**	**PRE-REQUISITE**
MPU23182	Sains, Teknologi dan Kejuruteraan Islam *	2	14	0	28	0	
MPU23172	Nilai Masyarakat Malaysia **						
MPU24051	Sukan 2	1	0	28	0	0	MPU24031
MPU24061	Kelab/Persatuan 2						MPU24014
MPU24XX1	Unit Beruniform 2						MPU24XX1
DUW10032	Occupational, Safety and Health	2	28	0	0	0	
DYA20263	Crop Protection	3	28	28	0	0	
DYA20274	Crop Production System	4	28	56	0	0	
DYA20283	Nursery Management	3	28	28	0	0	
DYA20293	E-Agriculture	3	28	28	0	0	
	TOTAL	**18**	**350**				

4.5 Programme Structure

SEMESTER 3							
CODE	**COURSE**	**CREDIT VALUE**	**L**	**P**	**T**	**O**	**PRE-REQUISITE**
DUE30122	Communicative English 2	2	14	0	28	0	
MPU22071	Kursus Integriti dan Anti-Rasuah	1	0	0	28	0	
MPU22062	Entrepreneurship	2	14	0	28	0	
DUG30032	Green Technology Compliance	2	14	28	0	0	
DYA30303	Basic Robotic and Automation in Agriculture	3	28	28	0	0	
DYA30313	Fertigation Technology	3	28	28	0	0	
DYA30323	Agricultural Waste Management	3	28	28	0	0	
TOTAL		**16**	**322**				

SEMESTER 4							
CODE	**COURSE**	**CREDIT VALUE**	**L**	**P**	**T**	**O**	**PRE-REQUISITE**
DYA40332	Agriculture Project Proposal	2	28	0	0	0	
DYA40343	Plant Tissue Culture	3	28	28	0	0	
DYA40353	Precision Agriculture	3	28	28	0	0	
DYA40363	Industrial Crop Production System	3	28	28	0	0	
DYA40372	Business In Agriculture	2	14	0	28	0	
DYA4XXX2	Elective 1	2	14	28	0	0	
TOTAL		**15**	**280**				

4.5 Programme Structure

SEMESTER 5							
CODE	**COURSE**	**CREDIT VALUE**	**L**	**P**	**T**	**O**	**PRE-REQUISITE**
DUE50132	Communicative English 3	2	14	0	28	0	
DYA50404	Agriculture Final Project	4	0	112	0	0	DYA40332
DYA50414	Mechanisation in Agriculture	4	28	56	0	0	
DYA50423	Post Harvest Technology	3	28	28	0	0	
DYA5XXX2	Elective 2	2	14	28	0	0	
	TOTAL	**15**	**294**				

SEMESTER 6							
CODE	**COURSE**	**CREDIT VALUE**	**L**	**P**	**T**	**O**	**PRE-REQUISITE**
DUT600710	Industrial Training	10	0	400	0	0	
	TOTAL	**10**	**400**				

4.5 Programme Structure

ELECTIVES							
CODE	**COURSE**	**CREDIT VALUE**	**L**	**P**	**T**	**O**	**PRE-REQUISITE**
DYA40382	Potential Agriculture Crop	2	14	28	0	0	
DYA40392	Integrated Farming System	2	14	28	0	0	
DYA50432	Agriculture Product Development	2	14	28	0	0	
DYA50442	Urban Agriculture	2	14	28	0	0	
FREE ELECTIVES							
DUD10012	Design Thinking	2	14	28	0	0	

Legend:

L : Lecture
P : Practical / Lab
T : Tutorial
O : Others
(The numbers indicated under L, P, T & O represent the contact hours for 14 weeks. The contact hours should be divided by 14 weeks as a guide for timetable preparation).
* : For Muslim Students
** : For Non-Muslim Students
, : AND - A course that has two (2) or more Course Learning Outcomes (CLO) mapped to the same Programme Learning Outcomes (PLO)

4.6 Course Synopsis

MPU21072 – PENGHAYATAN ETIKA DAN PERADABAN

PENGHAYATAN ETIKA DAN PERADABAN ini menjelaskan tentang konsep etika daripada perspektif peradaban yang berbeza. Ia bertujuan bagi mengenalpasti sistem, tahap perkembangan, kemajuan dan kebudayaan merentas bangsa dalam mengukuhkan kesepaduan sosial. Selain itu, perbincangan dan perbahasan berkaitan isu-isu kontemporari dalam aspek ekonomi, politik, sosial, budaya dan alam sekitar daripada perspektif etika dan peradaban dapat melahirkan pelajar yang bermoral dan profesional. Penerapan amalan pendidikan berimpak tinggi (HIEPs) yang bersesuaian digunakan dalam penyampaian kursus ini.

DUE10112 - COMMUNICATIVE ENGLISH 1

COMMUNICATIVE ENGLISH 1 focuses on developing students' speaking skills to enable them to communicate effectively and confidently in group discussions and in a variety of social interactions. It is designed to provide students with appropriate reading skills to comprehend a variety of texts. The students are equipped with effective presentation skills as a preparation for academic and work purposes. The course is also designed to assist students in achieving at least level B1 of Common European Framework of Reference (CEFR).

MPU24031 – SUKAN

1 SUKAN 1 adalah aktiviti yang mengandungi latihan kemahiran berguna secara rekreasi dan peraturan-peraturan tertentu dalam mengejar kecemerlangan bagi penguasaan pengetahuan dan kemahiran khusus secara holistik. Ia bertujuan bagi mengukuhkan pembentukan kemahiran insaniah pelajar yang positif.

4.6 Course Synopsis

MPU24041 – KELAB/PERSATUAN 1

KELAB/PERSATUAN 1 memfokuskan kepada penguasaan pengetahuan dan kemahiran khusus secara holistik bagi mengukuhkan pembentukan kemahiran insaniah pelajar yang positif.

DBM10213 – MATHEMATICS FOR TECHNOLOGY

MATHEMATICS FOR TECHNOLOGY introduces students to fundamental mathematics concepts such as basic algebra, geometry, measurement, function and graph, and statistic. It provides a foundation for other courses in applied science and agricultural science programs.

DBS10052- BIOLOGICAL SCIENCE

BIOLOGICAL SCIENCE covers knowledge of biological science, genetics, ecology, physiology and biochemical processes in plants and animals. The morphology, anatomy and taxonomy that include vegetative and reproduction system, structure and function of plants and animals will be discussed. Plant physiology covers seeds germination, growth and plant development, photosynthesis, and water relations. The plant biochemistry aspects include introduction to types and function of protein, carbohydrate, lipid, nucleic acid, enzymes reaction and its application in genetic engineering.

DBS10062- AGRICULTURAL CHEMISTRY

AGRICULTURAL CHEMISTRY is an applied science course that covers the properties of agrochemicals component for plants and animals, usage and classification of fertilizer and pesticide, according to their chemical structures and mode of actions that have effects on soil system. This includes both organic and non-organic agrochemicals as well as the importance of safety and health in agrochemical handling and applications.

4.6 Course Synopsis

DYA10243- SOIL SCIENCE

SOIL SCIENCE course introduces students to the knowledge of soil characteristics and management. Students will learn methods of prevention and conservation for problematic soil. Students are also exposed to the implementation of proper principles of soil management in order to mitigate climate change.

DYA10252- INTRODUCTION TO AGRICULTURE TECHNOLOGY

INTRODUCTION TO AGRICULTURE TECHNOLOGY course covers the history, development and application of modern agricultural technology for crop production, processing and handling of produce. This course will also introduce students to enclosed system in modern agriculture. Students will know about social, technical and environmental aspects during agriculture technology transfer, acceptance and management.

MPU23182- SAINS TEKNOLOGI DAN KEJURUTERAAN DALAM ISLAM

SAINS, TEKNOLOGI DAN KEJURUTERAAN DALAM ISLAM memberi pengetahuan tentang konsep Islam sebagai al-Din dan seterusnya membincangkan konsep sains, teknologi dan kejuruteraan dalam Islam serta impaknya, pencapaiannya dalam tamadun Islam, prinsip serta peranan syariah dan etika Islam, peranan kaedah fiqh serta aplikasinya.

MPU23172- NILAI MASYARAKAT MALAYSIA

NILAI MASYARAKAT MALAYSIA disediakan untuk membincangkan aspek sejarah pembentukan masyarakat, nilai-nilai agama, adat resam dan budaya masyarakat di Malaysia. Selain itu, pelajar dapat mempelajari tentang tanggungjawab sebagai individu dan nilai perpaduan dalam kehidupan di samping cabaran-cabaran dalam membentuk masyarakat Malaysia yang bersatupadu dan penyayang.

4.6 Course Synopsis

MPU24051 – SUKAN 2

SUKAN 2 adalah aktiviti yang mengandungi latihan kemahiran berguna secara rekreasi dan peraturan-peraturan tertentu dalam mengejar kecemerlangan bagi penguasaan pengetahuan dan kemahiran khusus secara holistik. Ia bertujuan bagi mengukuhkan pembentukan kemahiran insaniah pelajar yang positif.

MPU24061 – KELAB/PERSATUAN 2

KELAB/PERSATUAN 2 memfokuskan kepada penguasaan pengetahuan dan kemahiran khusus secara holistik bagi mengukuhkan pembentukan kemahiran insaniah pelajar yang positif.

DUW10032 – OCCUPATIONAL SAFETY AND HEALTH

OCCUPATIONAL SAFETY AND HEALTH course is designed to impart understanding of the self- regulatory concepts and provisions under the Occupational Safety & Health Act (OSHA) in Malaysia. This course presents the responsibilities of workers in implementing and complying with the safety procedures at work. Understanding of notifications of accidents, dangerous occurrences, poisoning and diseases and liability for offences will be imparted to students. This course will also provide an understanding of the key issues in OSH Management, Incident Prevention, Hazard Identification Risk Control and Risk Assessment (HIRARC), Fire Safety and First Aid, Workplace Environment and Ergonomics and guide the students gradually into this multi-disciplinary science.

DYA20263 – CROP PROTECTION

CROP PROTECTION will expose students to basic concepts of crop protection, crop pests and diseases control methods in agriculture field. This course also discusses on types, uses of pesticide and Integrated Pest Management in crop protection management.

4.6 Course Synopsis

DYA20274 – CROP PRODUCTION SYSTEM

CROP PRODUCTION SYSTEM is designed to equip students with basic knowledge and skills on production and management of crops such as rice, maize, sweet potatoes, tapioca and coconut in meeting national food supply. Students will learn the standard operating procedures, harvesting and post-harvest handling of crops production. Students are also exposed to method improvement program and commercialisation of the crops.

DYA20283 – NURSERY MANAGEMENT

NURSERY MANAGEMENT course is designed to equip students with knowledge and skills on principles to setup and manage plant nursery as well as techniques of plant propagation using both sexual and asexual means. Students will learn about general management and production practices related to plant propagation which emphasis on nursery management. Students also are exposed on basic knowledge of entrepreneurial skills required for commercialization of nursery product.

DYA20293 – E-AGRICULTURE

E-AGRICULTURE is designed to equip students with current and updated technologies in agriculture. It provides students with knowledge in Information and Communication Technology (ICT)and develops their skills in utilizing ICT and Internet of Things (IoT) applications for agricultural purposes, contributing to the achievement of Sustainable Development Goals (SDGs).

4.6 Course Synopsis

COMMUNICATIVE ENGLISH 2

COMMUNICATIVE ENGLISH 2 emphasises the skills required at the workplace to describe products or services as well as processes or procedures. It also exposes the students to the technique of a simple pitch and enables them to make and respond to enquiries and complaints. The course is also designed to assist students in achieving at least level B1 of Common European Framework of Reference (CEFR).

MPU22071 – KURSUS INTEGRITI DAN ANTIRASUAH

KURSUS INTEGRITI DAN ANTIRASUAH merangkumi konsep asas tentang nilai integriti, bentuk perbuatan rasuah dan salah guna kuasa dalam kehidupan seharian serta dalam organisasi dan langkah-langkah pencegahan rasuah.

MPU22062 – ENTREPRENEURSHIP

ENTREPRENEURSHIP focuses on the fundamentals and concept of entrepreneurship in order to inculcate the value and interest in students to choose entrepreneurship as a career. This course can help students to initiate creative and innovative entrepreneurial ideas. It also emphasizes on online and offline business learning in line with the changing needs of current market.

DUG30032 – GREEN TECHNOLOGY COMPLIANCE

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.

4.6 Course Synopsis

DYA30303 – BASIC ROBOTIC AND AUTOMATION IN AGRICULTURE

BASIC ROBOTIC AND AUTOMATION IN AGRICULTURE course provides the students with the basic aspect in robotic system including robot categories, robot control system and robot geometry. It discusses elements of robot, manipulators and robotic in agriculture applications that contributing to the achievement of sustainable Development Goals (SDGs). This course also focuses on automation in agriculture including various types of switches, sensors and motors. It explains the automation system including Programmable Logic Controller (PLC) to control the system.

DYA30313 – FERTIGATION TECHNOLOGY

FERTIGATION TECHNOLOGY course is designed to equip students with basic knowledge and skills on the potential, principles and maintenance using fertigation technology. Students will learn management of high value crop using fertigation technology. Students are also exposed to agronomy for crop production.

DYA30323 – AGRICULTURAL WASTE MANAGEMENT

AGRICULTURAL WASTE MANAGEMENT course is designed to introduce the basic knowledge with sustainable development goals (SDGs) and skills on technology in agricultural waste management. Students will be exposed to related sustainable activities in achieving agricultural waste management comply to the regulation and code of agricultural practice. Students will also learn other areas where agricultural waste management is implemented such as composting, bioremediation, wastes treatment and usage of end-product in agro waste management.

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4.6 Course Synopsis

DYA40332 – AGRICULTURE PROJECT PROPOSAL

AGRICULTURE PROJECT PROPOSAL equips knowledge and skills to plan and execute it towards a commercial agriculture project. Students must be able to provide and present comprehensive research proposals and its potential to be commercialized. A project proposal assignment will give students experience writing a project proposal in preparation for writing a final report.

DYA40343 – PLANT TISSUE CULTURE

PLANT TISSUE CULTURE discover the principle, concepts, techniques and practices in tissue culture. It emphasizes on the techniques using various types of culture to regenerate whole plant under sterile and controlled conditions. Somaclonal variation that is present in plant regenerated from tissue culture also discovered.

DYA40353 – PRECISION AGRICULTURE

PRECISION AGRICULTURE course providing students to the concepts, technologies and applications of precision farming. Students will be exposed to the use of enabling technology equipment and approach to assess field conditions and manage agriculture input rate. The course covers topics such as GPS, various sampling procedures using sensors, GIS, IoT, remote sensing and Variable Rate Technology (VRT). This course enabling students to apply this knowledge in real-world agricultural settings and contribute to the sustainable and efficient management of agricultural systems inline with sustainable development goals (SDGs).

4.6 Course Synopsis

DYA40363 – INDUSTRIAL CROP PRODUCTION SYSTEM

INDUSTRIAL CROP PRODUCTION SYSTEM is designed to equip students with basic knowledge and skills on crop production of industrial crop. The content of this course will include cultivation, management and harvesting in oil palm and rubber plantation. Student will also be introduce to agronomic practices of the crops.

DYA40372 – BUSSINESS IN AGRICULTURE

BUSSINESS IN AGRICULTURE focuses on the key concepts of entrepreneurship in agricultural business. The course combines the concepts of agriculture entrepreneurship and business agriculture management. Students will be guided on ways to conduct an agricultural business from business idea into a small start-up. At the end of the course, they are expected to gain sufficient knowledge to be agriculture entrepreneurs or agriculture managers.

DYA40382 – POTENTIAL AGRICULTURE CROP

POTENTIAL AGRICULTURE CROP course introduces students to the potential and developing agriculture crop such as medicinal plants, mushroom, local fruit and floriculture. Students will learn the benefits, potential, cultivation methods and production system of the crops.

DYA40392 – INTEGRATED FARMING SYSTEM

INTEGRATED FARMING SYSTEM is designed to equip students with the knowledge and understanding of the importance of integrated farming. It deals with concept of systems and interactions between components (eg: crop, livestock, aquaculture, etc.). Students also will learn about sustainable activities in achieving sustainable development goals (SDGs) which enhancing environmental sustainability through green growth.

4.6 Course Synopsis

DYA50404 – AGRICULTURE FINAL PROJECT

AGRICULTURE FINAL PROJECT is a scheme to organize the use of a given quantity of resources in a specific way to achieve particular results in agriculture project, all within a definite time. It has a precise beginning and precise end. The execution of the project requires multidisciplinary effort, mobilizing different skills and resources to achieve predetermine development objectives which will result, directly or indirectly, in new or added value or social,
economic or financial benefits.

DYA50414 – MECHANISATION IN AGRICULTURE

MECHANISATION IN AGRICULTURE discussed on the advantages of using machineries in the modern agriculture in order to replace the conventional method. This course emphasizes on agriculture tractor system and the implementation of land preparation by ploughing methods. It also discussed on planting equipment, fertilizer spreading equipment and crop protection equipment. Lastly, this course provides knowledge on harvesting machines and small machines in aspects to optimise the agriculture production yield.

DYA50423 – POST HARVEST TECHNOLOGY

POST HARVEST TECHNOLOGY course is designed to equip students with basic knowledge and skills in harvesting handlings and technology involved in post-harvest activities of agriculture fresh produce. Students will be exposed to various changes that occur during the post-harvest stage of harvesting including post-harvest activities that affect the quality of fresh produce. This course will cover physiological understanding after harvesting, biochemical changes, activities in packing houses, transportation, preservation and storage of fresh harvests with emphasis placed on safety and quality assessment.

4.6 Course Synopsis

DYA50432 – AGRICULTURE PRODUCT DEVELOPMENT

AGRICULTURE PRODUCT DEVELOPMENT is designed to equip students with basic knowledge and skills food product of agricultural produce, processing, packaging, labelling and food safety according national standard.

DYA50442 – URBAN AGRICULTURE

URBAN AGRICULTURE course introduces students to the concept of producing food in an urban setting. Students also will be exposed on overview of agriculture and food security issues and practices at the local level in cities in Malaysia and abroad.

DUE50132 – COMMUNICATIVE ENGLISH 3

COMMUNICATIVE ENGLISH 3 aims to develop the necessary skills in students to apply the job hunting mechanics effectively in their related fields. Students will learn the basics of job hunting mechanics which include using various job search strategies, understanding job requirements, making enquiries, and preparing high impact resumes, video-resume (visumes) and cover letters. The students will develop communication skills to introduce themselves, highlight their strengths and abilities, present ideas, express opinions and respond appropriately during job interviews. The course is also designed to assist students in achieving atleast B1 (high) of Common European Framework of Reference (CEFR).

4.6 Course Synopsis

DUT600710 – INDUSTRIAL TRAINING

INDUSTRIAL TRAINING is 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.

MPU22212 – BAHASA KEBANGSAAN A

BAHASA KEBANGSAAN A menawarkan kemahiran berbahasa dari aspek mendengar, bertutur, membaca dan menulis dengan sesuai dengan tahap intelek pelajar, serta meningkatkan kecekapan berbahasa dalam konteks rasmi dan tidak rasmi. Kursus ini mensasarkan keberhasilan pencapaian pelajar dengan sekurang-kurangnya mencapai tahap B1 berdasarkan skala pencapaian pelajar di dalam Common European Framework of Reference (CEFR).

DIPLOMA IN AQUACULTURE TECHNOLOGY [DTQ]

5.0 Programme of Diploma in Aquaculture Technology

The programme is envisioned to produce trained human resources in the field of aquaculture which could assist in the development of the Malaysian aquaculture industry to cater the demand of Third National Agriculture Policy. The programme shall expose students to practices and trainings in hatcheries and grow out ponds. Apart from that, students should be able to operate and manage hatcheries and grow out ponds on their own in groups through Shared Farming from the breeding to the harvesting and marketing stage. Students will also undergo industrial training in aquaculture farms, government and private sectors, research institutes and hatcheries locally and abroad to gain additional knowledge and experiences. Apart from core courses in aquaculture, this programme comprises several courses such as Agricultural Mathematics, Soil Science, Biological Science, Agricultural Chemistry, Communicative English, Islamic and Moral Education, Green Technology, Agri Project Management and Entrepreneurship. It will provide students with good foundation of knowledge, skills and able to adapt to new technologies and challenges through information management and lifelong learning.

The core courses will cover all aspects of the aquaculture area which include Principles of Aquaculture, Fish Production Method, Water Management, Aquaculture Health, Aquaculture Nutrition, Post-Harvest Technology, Aquaculture Innovation, Aquaculture Accreditation, and Aquaculture Practices. Elective courses offer some important aspects in fish production method, such as Ornamental Fish Culture, Seaweed Culture, Invertebrate Culture to enhance student's knowledge and skills.

5.1 Introduction of Programme Aquaculture Technology

Aquaculture has been identified as an industry with the potential to become a new growth source for the Malaysian economy. Efforts to promote the aquaculture industry as a new growth source for the Malaysian economy started as early as the 1990s with the Seventh Malaysia Plan (1996 – 2000). The Third National Agriculture Plan (NAP3) has targeted raising aquaculture production by some 200% during the period 1998-2010. Under the Ninth Malaysian Plan, (RMK-9) 2006-2010, the country aims to increase aquaculture production from 200,000 metric tonnes in 2004, to 600,000 metric tonnes by 2010 and to 727,300 metric tonnes in 2015. In both the mini budget that was announced in March 2010 by Prime Minister Datuk Seri Najib Tun Razak to stimulate the economy as well as Budget 2010, the government has identified aquaculture as one of the areas that will be given a boost

There is a great potential to be tapped in aquaculture, and for players to move up the value chain. It is a sunrise industry, given the rising global competition for sustainable food protein and the fact that the feed conversion rate is among the lowest, compared with beef and chicken, industry experts say. Over the next two decades, the Asian economy could become as large as the global economy today, during which we will see the creation of some 900 million new consumers.

In response to these issues, the Curriculum Development and Evaluation Division of the Department of Polytechnics have developed a Diploma in Aquaculture programme for Polytechnics students. This programme is designed to provide students with the required attributes of an aquatic farming technology under controlled condition.

It enables the students to acquire and apply the knowledge of science and technology fundamentals and attain in-depth technical competence in a specific area of this commercial technology.

The students will be trained to identify, formulate and problems solving. The utilization of information technology is encouraged in the learning process and the soft skill aspects of the students will be improved through group or individual projects and assignments. The students are required to accomplish their assignments in written and occasionally in oral form. Group assignments enable the students to work as a successful team.

5.2 Programme Aim (PAI)

Diploma in Aquaculture graduates in Polytechnics, Ministry of Education Malaysia will have knowledge, technical skills and attitude to adapt themselves with new technological advancement and challenges in Aquaculture Industries.

5.3 Programme Educational Objectives (PEO)

The Diploma in Aquaculture programme shall produce semiprofessionals who are:

1. Knowledgeable, technically competent in aquaculture technology discipline and able to adapt themselves with new technological advancement and challenges in aquaculture industries.
2. Effective in communication and able to prepare them with social skills, leadership qualities and willing to be responsible towards developing country and community.
3. Capable to solve aquaculture problems innovatively, creatively and ethically to secure organizations against internal and external security threats.
4. Able to demonstrate entrepreneurship skills and recognize the need of lifelong learning for successful career advancement.

5.4 Programme Learning Outcome (PLO)

Upon completion of the programme, graduates should be able to:

1. Acquire all basic knowledge in computing, mathematics, social science, soft skills and related areas of aquaculture and to be outstanding and successful in the future.
2. Capable to perform specialized techniques in fish production according to the industrial needs.
3. Communicate effectively with aquaculture professionals, other professionals and community.
4. Apply problem solving and critical thinking skills in the management of aquaculture issues
5. Promote good moral behavior and work ethics with high professionalism and accountability through teamwork and effective communication.
6. Engage in lifelong learning and professional development to enrich knowledge and competencies.
7. Inculcate entrepreneurial skills in the related discipline that contributes towards national growth and be competitive in aquaculture industries
8. Adhere to professional codes of ethics and enhance humanistic values to adapt to the real challenges in working environment.
9. Demonstrate effective leadership responsibility and teamwork to meet the common goals.

5.5 Programme Structure

SEMESTER 1							
CODE	COURSE	CREDIT VALUE	L	P	T	O	PRE-REQUISITE
MPU21072	Penghayatan Etika dan Peradaban	2	14	0	28	0	
MPU24XX1	Unit Beruniform 1	1	0	28	0	0	
MPU24031	Sukan 1						
MPU24041	Kelab / Persatuan 1						
DUE10112	Communicative English 1	2	14	0	28	0	
DBS10052	Biological Science	2	14	28	0	0	
DBS10062	Agricultural Chemistry	1	14	28	0	0	
DBM10213	Mathematics for Technology	3	28	0	28	0	
DYQ10223	Introduction to Aquaculture	3	28	0	28	0	
TOTAL		15	308				

5.5 Programme Structure

SEMESTER 2							
CODE	COURSE	CREDIT VALUE	L	P	T	O	PRE-REQUISITE
MPU23182	Sains, Teknologi dan Kejuruteraan Dalam Islam	2	14	0	28	0	
MPU23172	Nilai Masyarakat Malaysia**						
MPU24XX1	Unit Beruniform 2	1	0	28	0	0	MPU24XX1
MPU24051	Sukan 2						MPU24031
MPU24061	Kelab / Persatuan 2						MPU24041
DUW10032	Occupational Safety and health	2	28	0	0	0	
DYQ20033	Water Quality and Soil Management	3	28	28	0	0	
DYQ20243	Fish Disease Management	3	28	28	0	0	
DYQ20253	Fish Biology	3	28	28	0	0	
DYQ20263	Live Feed Culture	3	28	28	0	0	
TOTAL		17	322				

5.5 Programme Structure

SEMESTER 3							
CODE	COURSE	CREDIT VALUE	L	P	T	O	PRE-REQUISITE
MPU22062	Entrepreneurship	2	14	0	28	0	
DUE30122	Communicative English 2	2	14	0	28	0	
DUG30032	Green Technology Compliance	2	14	28	0	0	
DYQ30273	Aquaculture Feed and Nutrition	3	28	28	0	0	
DYQ30283	Breeding and Fry Management	3	28	28	0	0	
DYQ30293	Hatchery Practice	3	0	84	0	0	
DYQ30303	Fish Post Harvest and Processing	3	14	56	0	0	
	TOTAL	18	392				

5.5 Programme Structure

SEMESTER 4							
CODE	COURSE	CREDIT VALUE	L	P	T	O	PRE-REQUISITE
MPU22071	Kursus Integriti dan Anti Rasuah (KIAR)	1	0	0	28	0	
DYQ40313	Aquaculture System and Technology	3	28	28	0	0	
DYQ40323	Grow Out Culture	3	28	28	0	0	
DYQ40333	Aquaculture Farming	3	0	84	0	0	
DYQ40342	Aquaculture Project Proposal	2	28	0	0	0	
DYQ4XXX2	Elective 1	2	14	28	0	0	
	TOTAL	14	294				

5.5 Programme Structure

SEMESTER 5							
CODE	COURSE	CREDIT VALUE	L	P	T	O	PRE-REQUISITE
DUE50132	Communicative English 3	2	14	0	28	0	
DYQ50373	Ornamental Fish Culture	3	14	56	0	0	
DYQ50383	Crustacean Culture	3	28	28	0	0	
DYQ50392	Urban Aquaculture	2	14	28	0	0	
DYQ50404	Aquaculture Final Project	4	0	112	0	0	DYQ40342
DYQ5XXX2	Elective 2	2	14	28	0	0	
	TOTAL	16	364				

5.5 Programme Structure

ELECTIVES							
CODE	COURSE	CREDIT VALUE	L	P	T	O	PRE-REQUISITE
DYQ40352	Seaweed Culture	2	14	28	0	0	
DYQ40362	Aquaculture Workshop Practice	2	14	28	0	0	
DYQ50412	Water Safety	2	14	28	0	0	
DYQ50422	Recreational Fishing	2	14	28	0	0	
FREE ELECTIVES							
DUD10012	Design Thinking	2	14	0	0	14	

5.5 Programme Structure

SEMESTER 6							
CODE	COURSE	CREDIT VALUE	L	P	T	O	PRE-REQUISITE
DUT600710	Industrial Training	10	0	400	0	0	
	TOTAL	10	400				

Legend:

L : Lecture, P : Practical / Lab, T : Tutorial, O : Others
(The numbers indicated under L, P, T & O represent the contact hours per week, to be used as a guide for time table preparation).

***ForMuslim Students**
****For Non Muslim Students**

5.6 Course Synopsis

MPU23182- SAINS TEKNOLOGI DAN KEJURUTERAAN DALAM ISLAM

SAINS, TEKNOLOGI DAN KEJURUTERAAN DALAM ISLAM memberi pengetahuan tentang konsep Islam sebagai al-Din dan seterusnya membincangkan konsep sains, teknologi dan kejuruteraan dalam Islam serta impaknya, pencapaiannya dalam tamadun Islam, prinsip serta peranan syariah dan etika Islam, peranan kaedah fiqh serta aplikasinya.

MPU23172- NILAI MASYARAKAT MALAYSIA

NILAI MASYARAKAT MALAYSIA disediakan untuk membincangkan aspek sejarah pembentukan masyarakat, nilai-nilai agama, adat resam dan budaya masyarakat di Malaysia. Selain itu, pelajar dapat mempelajari tentang tanggungjawab sebagai individu dan nilai perpaduan dalam kehidupan di samping cabaran-cabaran dalam membentuk masyarakat Malaysia yang bersatupadu dan penyayang.

MPU24051 – SUKAN 2

SUKAN 2 adalah aktiviti yang mengandungi latihan kemahiran berguna secara rekreasi dan peraturan-peraturan tertentu dalam mengejar kecemerlangan bagi penguasaan pengetahuan dan kemahiran khusus secara holistik. Ia bertujuan bagi mengukuhkan pembentukan kemahiran insaniah pelajar yang positif.

MPU24061 – KELAB/PERSATUAN 2

KELAB/PERSATUAN 2 memfokuskan kepada penguasaan pengetahuan dan kemahiran khusus secara holistik bagi mengukuhkan pembentukan kemahiran insaniah pelajar yang positif.

5.6 Course Synopsis

DUW10032 – OCCUPATIONAL SAFETY AND HEALTH

OCCUPATIONAL SAFETY AND HEALTH course is designed to impart understanding of the self- regulatory concepts and provisions under the Occupational Safety & Health Act (OSHA) in Malaysia. This course presents the responsibilities of workers in implementing and complying with the safety procedures at work. Understanding of notifications of accidents, dangerous occurrences, poisoning and diseases and liability for offences will be imparted to students. This course will also provide an understanding of the key issues in OSH Management, Incident Prevention, Hazard Identification Risk Control and Risk Assessment (HIRARC), Fire Safety and First Aid, Workplace Environment and Ergonomics and guide the students gradually into this multi-disciplinary science.

DYQ20233 – WATER QUALITY AND SOIL MANAGEMENT

WATER QUALITY AND SOIL MANAGEMENT introduces the basic concepts of understanding water quality and soil management in aquaculture, and its importance in aquatic organism growth and health. It also emphasizes on the aspects of water quality parameter and soil suitability, which determines the suitability of water and soil for aquaculture. This course provides students an opportunity to handle several water quality equipment for water quality measurement and effects of soil to water quality. It also exposes students to evaluate and analyse water quality data. This course enables the students to calculate liming and fertilizer requirement for soil management. This course also provides a practical hands-on approach to soil and water treatment and management of water quality in different culture systems and hatchery.

5.6 Course Synopsis

DYQ20243 – FISH DISEASE MANAGEMENT

FISH DISEASE MANAGEMENT is designed to equip students with the knowledge and understanding of the fish disease and its management in aquaculture. It deals with the symptoms shown by infected fish, pathogenic disease mainly caused by bacteria, parasites, viruses and fungi. It is also cover the non-pathogenic problem that lead to fish disease such as low water quality, nutrition imbalance and improper handling. This course also provides students with knowledge and skills in disease prevention, treatment method and regulations involved.

DYQ20253 – FISH BIOLOGY

FISH BIOLOGY will provide students with the general overview of the biology of fish species in aquatic ecosystems. It focuses on the identification of relevant aquaculture species based on the external and internal morphology. This course also emphasizes the habitat preferences, feeding behaviour, growth and life cycle of fish. Students will gain practical knowledge and critical thinking skills necessary to address challenges related to fish conservation and sustainability development.

DYQ20263 – LIVE FEED CULTURE

LIVE FEED CULTURE introduces students to the knowledge and skills in live feed preparation and culture technique. This course focuses on both live feed groups of phytoplankton and zooplankton which covered both indoor and outdoor culture activities. At the end, students will be able to carry out live feed harvesting activities.

5.6 Course Synopsis

DUE30122 – COMMUNICATIVE ENGLISH 2

COMMUNICATIVE ENGLISH 2 emphasises the skills required at the workplace to describe products or services as well as processes or procedures. It also exposes the students to the technique of a simple pitch and enables them to make and respond to enquiries and complaints. The course is also designed to assist students in achieving at least level B1 of Common European Framework of Reference (CEFR).

MPU22062 – ENTREPRENEURSHIP

ENTREPRENEURSHIP focuses on the fundamentals and concept of entrepreneurship in order to inculcate the value and interest in students to choose entrepreneurship as a career. This course can help students to initiate creative and innovative entrepreneurial ideas. It also emphasizes on online and offline business learning in line with the changing needs of current market.

DUG30032 – GREEN TECHNOLOGY COMPLIANCE

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.

5.6 Course Synopsis

DUE30122 – COMMUNICATIVE ENGLISH 2

COMMUNICATIVE ENGLISH 2 emphasises the skills required at the workplace to describe products or services as well as processes or procedures. It also exposes the students to the technique of a simple pitch and enables them to make and respond to enquiries and complaints. The course is also designed to assist students in achieving at least level B1 of Common European Framework of Reference (CEFR).

DYQ30283 – BREEDING AND FRY MANAGEMENT

BREEDING AND FRY MANAGEMENT covers broodstock maintenance to produce fish fry. This course emphasizes on various breeding methodology thus managing larvae up to juvenile stage with hands-on approach. Students will be able to conduct proper breeding techniques and fry rearing. Furthermore, students will be able to assess the maturity of broodstock, egg and fry quality to improve the production of fry in aquaculture industry.

DYQ30293 – HATCHERY PRACTICE

HATCHERY PRACTICE exposes students to a hands-on, practical approach to conducting and managing hatchery fry and fingerling production projects. Students will be able to conduct proper fry and fingerling production activities. This course covers project proposal preparation, project preparation, fry production, husbandry practice management, harvesting and packaging processes, and marketing strategies. The student will also be able to carry out a fry andfingerling production project and marketing activities.

5.6 Course Synopsis

DYQ30303 - FISH POST HARVEST AND PROCESSING

FISH POST HARVEST AND PROCESSING exposes students to the basic knowledge of fish handling, transportation and also good managerial skills in downstream industries and its packaging techniques. It focuses on current techniques in fish handling and transporting method to maintain the freshness of fish-based products. This course also requires students to produce selected downstream cottage products. It also covers some aspects of quality control and quality assurance in downstream industries.

MPU22071 – KURSUS INTEGRITI DAN ANTIRASUAH

KURSUS INTEGRITI DAN ANTIRASUAH merangkumi konsep asas tentang nilai integriti, bentuk perbuatan rasuah dan salah guna kuasa dalam kehidupan seharian serta dalam organisasi dan langkah-langkah pencegahan rasuah.

DYQ40313 – AQUACULTURE SYSTEM AND TECHNOLOGY

AQUACULTURE SYSTEM AND TECHNOLOGY introduces students to the knowledge of technology, design and function of the system in the aquaculture facilities. It also covers technique to design the appropriate system to produce optimal production. This course also exposes students to the mode of operation and maintenance for hatchery and the basic equipment required.

DYQ40323 – GROW OUT CULTURE

GROW OUT CULTURE introduces the knowledge and skills for grow out culture operations. This course emphasizes on grow out culture preparations, husbandry practices, feeding and harvesting activities. Students will be able to know the procedures of grow out culture from preparation until harvesting the stocks.

5.6 Course Synopsis

DYQ40333 – AQUACULTURE FARMING

AQUACULTURE FARMING exposes a hands on practical approach to students on conducting and managing grow out culture project. This course covers integrated farming process from the proposal preparation, pond preparation, fry acclimation, stocking density, feed and feeding, daily monitoring on water quality, growth and health. It also requires student to carry out harvesting and marketing activities. Project evaluation will be made at the end of the project period.

DYQ40342 – AQUACULTURE PROJECT PROPOSAL

AQUACULTURE PROJECT PROPOSAL equips students with knowledge and skills to plan and execute their research proposal for a commercializable aquaculture final project. They must be able to provide and present comprehensive research proposals and its potential to be commercialized. A project proposal assignment will give students experience writing aproject proposal in preparation for writing a final report.

DYQ50373 – ORNAMENTAL FISH CULTURE

ORNAMENTAL FISH CULTURE is conducted to equip students with the knowledge and skills in ornamental fish production. This course also covers the general biology, breeding and nursing technique, disease, quarantine, harvesting, packaging for transportation and marketing in ornamental fish culture.

5.6 Course Synopsis

DYQ50383 – CRUSTACEAN CULTURE

CRUSTACEAN CULTURE introduces students to the knowledge and skills in crustacean culture that focuses on freshwater prawn and others crustacean morphology, biology, site selection, grow out culture preparation and culture techniques. This course also covers basic knowledge of crustacean disease, harvesting and post harvest handling. Students will be able to know the proper way of crustacean culture (freshwater prawn) from site selection until harvesting the stocks.

DYQ50392 – URBAN AQUACULTURE

URBAN AQUACULTURE is designed to equip students with the knowledge and understanding of various aquaculture system concepts with the implementation of latest technology. It emphasizes the concept of biofiltration nutrient cycle, recirculating aquaculture system and automation in aquaculture. This course also provides students to apply the concept of aquaponics system, aquascape and paludarium.

DYQ50404 – AQUACULTURE FINAL PROJECT

AQUACULTURE FINAL PROJECT is a scheme to organize the use of a given quantity of resources in a specific way to achieve particular results in aquaculture project,all within a definite time. It has a precise beginning and precise end. The execution of the project requires multidisciplinary effort, mobilizing different skills and resources to achieve predetermine development objectives which will result, directly or indirectly, in new or added values or social, economic or financial benefits.

5.6 Course Synopsis

DYQ40352 – SEAWEED CULTURE

SEAWEED CULTURE is designed to equip students with the knowledge and skills of seaweed culture techniques. It also focuses on harvesting techniques. This course also exposes students to the commercial seaweed products.

DYQ40362 – AQUACULTURE WORKSHOP PRACTICE

AQUACULTURE WORKSHOP PRACTICE will expose students with the multiskilling of technical support in the aquaculture industry. Students will be able to gain knowledge and skill of electrical wiring, fiberglass tank fabrication, glass tank fabrication and High Density Polyethylene (HDPE) lining fabrication. Students also will be exposed with disciplines of workshop safety procedures.

DYQ50412 – WATER SAFETY

WATER SAFETY is designed to equip students with knowledge and understanding to handle water related activities in a safe manner. The course focuses on health condition, hazard prevention, recognition and response in the aquatic environment. This course also provides students with techniques and skills to maintain good health condition, basic aquatic skills and hydrodynamic.

DYQ50422 – RECREATIONAL FISHING

RECREATIONAL FISHING is conducted to equip students with the knowledge, skills and techniques of fishing common fish. This course covers the general fishing activities, rules and law of fishing practices and types of fishing method. The course also equips the students with the knowledge of good fishing practices.

5.6 Course Synopsis

DUT600710 – INDUSTRIAL TRAINING

INDUSTRIAL TRAINING is 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.

MPU22212 – BAHASA KEBANGSAAN A

BAHASA KEBANGSAAN A menawarkan kemahiran berbahasa dari aspek mendengar, bertutur, membaca dan menulis dengan sesuai dengan tahap intelek pelajar, serta meningkatkan kecekapan berbahasa dalam konteks rasmi dan tidak rasmi. Kursus ini mensasarkan keberhasilan pencapaian pelajar dengan sekurang-kurangnya mencapai tahap B1 berdasarkan skala pencapaian pelajar di dalam Common European Framework of Reference (CEFR).

DUE50132 – COMMUNICATIVE ENGLISH 3

COMMUNICATIVE ENGLISH 3 aims to develop the necessary skills in students to apply the job hunting mechanics effectively in their related fields. Students will learn the basics of job hunting mechanics which include using various job search strategies, understanding job requirements, making enquiries, and preparing high impact resumes, video-resume (visumes) and cover letters. The students will develop communication skills to introduce themselves, highlight their strengths and abilities, present ideas, express opinions and respond appropriately during job interviews. The course is also designed to assist students in achieving atleast B1 (high) of Common European Framework of Reference (CEFR).

6.0 Domain Programme Learning Objective (PLO)

Domain	Graduate Technologist	Qualified Technician		
	Bachelor's Degree	**Advanced Diploma**	**Diploma**	**Certificate**
PLO1 - Knowledge (Cognitive Domain)	Apply the knowledge of technology fundamental to broadly defined procedures, processes, systems, and methodologies in the field of study.	Possess relevant knowledge of technology fundamentals on extended well-defined procedures and practices in the field of study.	Possess relevant knowledge of technology fundamentals on well-defined procedures and practices in the field of study.	Possess basic knowledge of technology fundamentals on routine procedures and practices in the field of study.
PLO2 - Practical Skills/Modern Tool Usage/ Digital Skills (Psychomotor Domain)	Propose and employ current tools and techniques to resolve broadly defined / *complex problems.	Propose and employ current tools and techniques to resolve extended well-defined problems.	Propose and employ current tools and techniques to resolve well-defined problems.	Propose and employ current tools and techniques to resolve routine problems.
PLO3 - Analytical, Critical Thinking, Design Thinking and Scientific Approach / Numeracy Skills (Cognitive Domain)	Demonstrate analytical and critical thinking abilities to design and provide a solution for broadly defined / *complex problems in the field of study.	Establish investigative and significant thinking abilities to resolve extended well-defined problems in the field of study.	Establish investigative and significant thinking abilities to resolve well-defined problems in the field of study.	Establish basic investigative and significant thinking abilities to resolve routine problems in the field of study.
PLO4 - Communication Skills (Affective Domain)	Communicate effectively and flexibly in oral and written language for social, academic, and professional purposes.	Communicate and explain in detail a wide range of viewpoints for social, academic, and professional purposes.	Communicate and explain clearly several viewpoints for social, academic and professional purposes.	Communicate and describe simple tasks within familiar areas and the immediate needs

6.0 Domain Programme Learning Objective (PLO)

Domain	Graduate Technologist	Qualified Technician		
	Bachelor's Degree	**Advanced Diploma**	**Diploma**	**Certificate**
PLO5 - Social Responsibility in Society and Technologist Community (Affective Domain)	Illustrate the understanding of corresponding issues related to the society and the subsequent responsibilities to the broadly defined technology practices.	Illustrate the understanding of the issues related to the society and the subsequent responsibilities appropriate to the extended well-defined technology practices.	Illustrate the understanding of the issues related to the society and the subsequent responsibilities appropriate to the extended well-defined technology practices.	Illustrate the understanding of the issues related to the society and the subsequent responsibilities appropriate to the routine technology practices.
PLO6 - Lifelong Learning and Information Management / Personal Skills (Affective Domain)	Acknowledge the requirement of professional establishment and to employ independent continuing learning in specialist technology.	Acknowledge the requirement of career establishment and to employ independent continuing learning in specialised technical knowledge.	Acknowledge the requirement of career establishment and to employ independent continuing learning in specialised technical knowledge.	Acknowledge the requirement of career establishment and to employ continuing learning.
PLO7 - Technopreneurial and Management Skills (Affective Domain)	Illustrate consciousness of management and technopreneurial routine in real perspective.	Illustrate consciousness of management and technopreneurial routine in real perspective.	Illustrate consciousness of management and technopreneurial routine in real perspective.	Illustrate a consciousness of management and technopreneurial routine from a real perspective.

6.0 Domain Programme Learning Objective (PLO)

Domain	Graduate Technologist	Qualified Technician		
	Bachelor's Degree	**Advanced Diploma**	**Diploma**	**Certificate**
PLO8 - Ethics and Professionalism (Affective Domain)	Illustrate ethical awareness and professionalism.	Illustrate ethical awareness and professionalism.	Illustrate ethical awareness and professionalism.	Illustrate ethical awareness and professionalism.
PLO9 - Teamwork and Leadership (Affective Domain)	Illustrate leadership character, mentoring and work efficiently in diverse teams.	Illustrate leadership character and work efficiently in diverse technical teams.	Illustrate leadership character and work efficiently in diverse technical teams.	Illustrate leadership character and work efficiently in a technical team.

7.0 Programme Educational Objectives (PEO) KPI

DIPLOMA IN AGROTECHNOLOGY

The Diploma in Agrotechnology should be able to produce agrotechnologists who are capable of:

BIL	PEO	K/TS/SS	KPI
1	Apply fundamental knowledge, understanding and technical skills of agrotechnology in identifying issues and assisting to provide solution in agriculture production.	Knowledge, practical skills & critical thinking	35% of graduates comply the knowledge, technical in agrotechnology industries.
2	Integrate values, attitudes, professionalism, and social skills in engaging with society and stakeholders in agriculture.	Social responsibilities in society & ethics and professionalism	30% of graduates were able to comply with good ethics during engaged with community
3	Alternately adopt the roles of a leader and a team member and communicate effectively in assisting the solution for agrotechnology challenges in community.	Communication skills & teamwork and leadership	20% of graduates able to communicate and responsible working in team in providing the solution for agrotechnology problems
4	Engaged in agriculture production activities to embark entrepreneurial skills for career advancement and innovatively assist to manage resources and information	Life-long learning and Information management skills & technopreneurship and management skills	15% of graduates participate in entrepreneurial and manage resource and information activities/seminar for career advancement

7.0 Programme Educational Objectives (PEO) KPI

DIPLOMA IN AGROTECHNOLOGY

PROGRAMME LEARNING OUTCOME (PLO) KPI
DIPLOMA AGROTECHNOLOGY
(KOHORT SESI II 2023/2024 - SESI 1 2026/2027)

upon completion of this programme, graduate should be able to:

No	PLO	DOMAIN	SKILL	KPI
1	Posses relevant knowledge of technology fundamentals on well-defined procedured and practice in the agriculture industtry	Knowledge	Knowledge	50% of students obtained knowledge in discipline, compulsory, common, and elective courses of the agrotechnology programme
2	Propose and employ current tools and techniques to resolve well-defined problems in the agriculture industry	Practical skills/moderan tool usage / digital skill	Technical skill	50% of students can propose and employ current agrotechnology techniques according to industrial needs
3	Establish basic investigate and significant thinking abilities to resolve well-defined problems in the agriculture field	Analytical, critical thinking, design thinking and specific approach / Numeracy skills (congnitive)	Knowledge	50% of students able to establish significant thinking abilities to resolve problems in the agrotechnology field

7.0 Programme Educational Objectives (PEO) KPI

DIPLOMA IN AGROTECHNOLOGY

PROGRAMME LEARNING OUTCOME (PLO) KPI
DIPLOMA AGROTECHNOLOGY
(KOHORT SESI II 2023/2024 - SESI 1 2026/2027)

upon completion of this programme, graduate should be able to:

No	PLO	DOMAIN	SKILL	KPI
4	Communicate and clearly explain several viewpoints for social, academic, and professional purpose	Communication skills	Soft skills	50% students able to communicate in multi level group purposes
5	Illustrate the understanding of the issues related to the society and the subsequesnt responsibilities appropriate to the extended well-defined technology practices	Responsibility in social and technologist community	Soft skill	50% of students able to participate in group with good manner
6	Acknowledge the requirement of career establishment and to employ independence continuening learning in specilized technical knowledge	Lifelong learning and information manegemnt / personal skills (Affective)	Soft skill	50% of students participate in lifelong learning activities through courses related

7.0 Programme Educational Objectives (PEO) KPI

DIPLOMA IN AGROTECHNOLOGY

PROGRAMME LEARNING OUTCOME (PLO) KPI
DIPLOMA AGROTECHNOLOGY
(KOHORT SESI II 2023/2024 - SESI 1 2026/2027)

upon completion of this programme, graduate should be able to:

No	PLO	DOMAIN	SKILL	KPI
7	Illustrate a consciousness of management and technopreneurship routine in real perspective	Technopreneurship and management skills	Soft skills	50% of students involved in entrepreneurship activities
8	Illustrate ethical awareness and professionalism	Ethics and professionalism	Soft skill	50% of student comply with professional codes of ethics when adapting to society
9	Illustrate leadership character and work efficiently in diverse technical teams	Teamwork and leadership	Soft skill	50% of students able to participate in team

7.0 Programme Educational Objectives (PEO) KPI

DIPLOMA IN AQUACULTURE TECHNOLOGY

The Diploma in Aquaculture Technology should be able to produce aquaculturist who are capable to:

BIL	PEO	K/TS/SS	KPI
1	Apply fundamental knowledge, understanding and technical skills of aquaculture in identifying issues and assisting to provide technical solution in aquaculture production	Knowledge, practical skills & critical thinking	35% graduates comply the knowledge, technical in aquaculture industries based on tracers study.
2	Integrate values, attitudes, professionalism and social skills in engaging with society and stakeholders in aquaculture	Social responsibilities in society & ethics and professionalism	30% graduates able to comply the good ethic during engaged with community.
3	Alternately adopt the roles of a leader and a team member, and communicate effectively in assisting the solutions for aquaculture challenges in community	Communication skills & teamwork and leadership	20% graduates able to communicate and responsible working in team in providing the solution for aquaculture problems
4	Engage in aquaculture production activities to embark entrepreneurial skills for career advancement and innovatively assist to manage resources and information	Life-long learning and Information management skills & technopreneurship and management skills	15% graduates participate in entrepreneurial and manage resource and information activities/ seminar for career advancement

7.0 Programme Educational Objectives (PEO) KPI

DIPLOMA IN AQUACULTURE TECHNOLOGY

PROGRAMME LEARNING OUTCOME (PLO) KPI
DIPLOMA AQUACULTURE
(KOHORT SESI II 2023/2024 - SESI 1 2026/2027)

upon completion of this programme, graduate should be able to:

No	PLO	DOMAIN	SKILL	KPI
1	Posses relevant knowledge of technology fundamental on well-defined procedures and practice in the aquaculture field	knowledge	knowledge	65% students obtained knowledge in discipline, compulsory, common and elective courses of aquaculture programme
2	Propose and employ current tools and techniques to resolve well-defined problems	Practical skills / Moderan tool usage / digital skills	Technical skill	80% of students able to propose and employ current aquaculture techniques according to the industrial needs
3	Establish basic investigate and significant thinking abilities to resolve well defined problems in the aquaculture field	Analytical. critical thinking, design and scientific approach / numeracy skills	knowledge	75% student able to establish significant thinking abilities to resolve problems in the aquaculture field

7.0 Programme Educational Objectives (PEO) KPI

DIPLOMA IN AQUACULTURE TECHNOLOGY

PROGRAMME LEARNING OUTCOME (PLO) KPI
DIPLOMA AQUACULTURE
(KOHORT SESI II 2023/2024 - SESI 1 2026/2027)

upon completion of this programme, graduate should be able to:

No	PLO	DOMAIN	SKILL	KPI
4	Communicate and clearly explain several viewpoints for social. academic and professional purposes	Comunication skills	Soft skills	75% students able to communicare in multi level group purposes
5	Illustrate the understanding of the issues related to the society and the subsequent responsibilities appropriate to the extended well defined technology practices	Society responsibility in society and technologist community	Soft skills	80% students able to participate in group with good manner
6	Acknowledge the requirement of career establishment and to employ independent continueing learning in specialized technical knowledge	Lifelong learning and information management / personal skills	Soft skills	80% studnets participate in lifelong learning activities through courses related

7.0 Programme Educational Objectives (PEO) KPI

DIPLOMA IN AQUACULTURE TECHNOLOGY

PROGRAMME LEARNING OUTCOME (PLO) KPI
DIPLOMA AQUACULTURE
(KOHORT SESI II 2023/2024 - SESI 1 2026/2027)

upon completion of this programme, graduate should be able to:

No	PLO	DOMAIN	SKILL	KPI
7	Illustrate a consciousness of management and technopreneurship routine in real perspective	Technopreneurship and management skills	Soft skills	80% students involved entreprenurship activities
8	Illustrate ethical awareness and professionalism	Ethics and professionalism	Soft skills	80% students comply to professional cods of ethics during adapt to society
9	Illustrate leadership character and work efficiently in diverse technical teams	Teamwork and leadership	Soft skills	75% students able to participate in team

8.0 Author Biography

WAN NOR AFZAN BINTI MOHD AZMI is a graduate of Diploma in Agriculture and Bachelor of Science in Horticulture from Universiti Putra Malaysia in 2006 and 2010. With a 5 years of work experience at Sandakan Polytechnic Sabah and 8 years at Jeli Polytechnic Kelantan, she experiences in writing the Agrotechnology Diploma Handbook (2015), writing for E book Panduan Asas Pembajaan (2022) dan E book Sains Tanah : Kenali Sifat Fizikal Tanah (2024)

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8.0 Author Biography

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