UNIVERSITI MALAYA

CEBAR

MASTER OF AGRICULTURAL BIOSECURITY

Prospectus

Academic session 2025/2026

Master by Coursework

UNIVERSITI MALAYA

INSTITUT PENGAJIAN TERMAJU
Institute for Advanced Studies

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UNIVERSITI MALAYA

Vision

A global university impacting the world.

Mission

Pushing the boundaries of knowledge and nurturing aspiring leaders.

Universiti Malaya (UM), Malaysia's oldest university, is situated on a 900 acre campus in the southwest of Kuala Lumpur, the capital of Malaysia. It was established in April 1949 in Singapore with the merger of the King Edward VII College of Medicine (founded in 1905) and Raffles College (founded in 1928).

Universiti Malaya derives its name from the term 'Malaya' as the country was known as then. The Carr-Saunders Commission, which recommended the setting up of the university, noted in its Report in 1948: "Universiti Malaya would provide for the first time a common centre where varieties of race, religion and economic interest could mingle in joint endeavour. For Universiti Malaya must inevitably realise that it is a university for Malaya."

The growth of the University was very rapid during the first decade of its establishment and this resulted in the setting up of two autonomous Divisions in 1959, one located in Singapore and the other in Kuala Lumpur. In 1960, the government of the two territories indicated their desire to change the status of the Divisions into that of a national university. Legislation was passed in 1961 and Universiti Malaya was established on 1st January 1962.

On June 16th 1962, Universiti Malaya celebrated the installation of its first Chancellor, Tunku Abdul Rahman Putra Al-Haj, who was also the country's first prime minister. The first Vice-Chancellor was Professor Oppenheim, a world-renowned Mathematician. Currently, His Royal Highness The Sultan of Perak Darul Ridzuan is the Chancellor of UM.

UNIVERSITI MALAYA

Core values of Universiti Malaya

- **Passion**
- **Oneness**
- **Integrity**
- **Sincerity**
- **Empathy**

EDUCATIONAL GOALS

Universiti Malaya's Educational Objective is to provide a transformative education that empowers students with the necessary knowledge, skills and ethical values to enable them to advance knowledge, promote social justice, drive sustainable development and contribute meaningfully to society.

Graduates of Universiti Malaya will be able to:

1. Apply knowledge and skills with an innovative mindset towards sustainability and inclusivity.
2. Utilize effective and advanced information management methods to make data-informed decisions and achieve goals in line with the relevant professional standards.
3. Engage effectively with academia, public authorities, industries, and the community, in carrying out professional and social responsibilities.
4. Internalize and demonstrate integrity, resilience, agility, and empathy in personal, professional, and global community engagement.

DIRECTOR'S FOREWORD

Welcome to CEBAR

The Centre for Research in Biotechnology for Agriculture (CEBAR) was established to bring together experts across Universiti Malaya, with a common interest in the application of biotechnology, both traditional and modern, for various fields of agriculture. As Universiti Malaya has no department of agriculture, CEBAR facilitates Agricultural Biotechnology for the whole University, providing some key facilities and expertise, not least the first Internationally certified Plant Biosecurity Greenhouse (BSL2) to be established in Malaysia, which was officially opened by the Honourable Minister of Science and Technology, Malaysia in 2009.

Agricultural biosecurity, is a key component of agriculture and is especially related to Agricultural Biotechnology, as this covers the safe management of existing, introduced and technologically developed organisms that can impact agriculture and the environment. Ranging from land grown crops to livestock and fisheries, the impact of pests and diseases on food safety, food production and hence food security are enormous. Due to this, the safe handling and avoidance of mis-use of pathogens, potential pathogens and their vectors is a serious matter, that requires specialist experts. This was the motivation for development of the Master of Agricultural Biosecurity programme.

As a student in the Master of Agricultural Biosecurity programme at Universiti Malaya you will be trained in the principles and practical aspects of protecting agricultural systems from biological agents, including pests, diseases, and intentional contamination. Covering crucial topics including risk assessment, food defence, plant and animal health, epidemiology, and emergency management, this programme will prepare you to apply your new knowledge and skills in the public or private sector, to ensure food supply safety and manage economic and trade implications of agricultural threats. On behalf of all of our programme instructors and support staff at CEBAR, I wish you every success in your studies and your future contributions to making the planet safer.

Lastly, I again welcome you to CEBAR, Universiti Malaya and encourage you to take advantage of all it has to offer.

PROFESSOR DR. JENNIFER ANN HARIKRISHNA
Director, CEBAR

Centre for Research in Biotechnology for Agriculture (CEBAR)

The Centre for Research in Biotechnology for Agriculture (CEBAR) is a Centre of Research Excellence at Universiti Malaya (UM). CEBAR pursues multidisciplinary research leveraging Malaysia's mega biodiversity to support a sustainable agricultural bioeconomy. CEBAR was established in 2005 in recognition of the need to strengthen the agricultural biosecurity scientific capacity of Malaysia.

"To develop scientific knowledge in biotechnological research for the benefit of the society"

That is our mission! We aim to promote, strengthen, and synergise links between academic research and industrial sectors to encourage exchange of knowledge and expertise. The Centre combines strengths in crops, agriculture and aquaculture research, and makes a major contribution to the understanding of key global issues, such as sustaining biodiversity, and food security in the face of climate change, and developing and improving agricultural productivity through modern biotechnology. Being a research-active centre, CEBAR has developed an enviable reputation for the quality of its fundamental and applied scientific research and actively engaged with industry partners to provide innovative solutions to today's agricultural issues.

"Empowering curious people"

We empower our researchers to strive for extraordinary success. As we recognise our people are our future and key to continued growth and success, we are committed to providing continuous professional development, training and a friendly and nurturing working environment. The Centre takes the lead and has contributed substantially towards human capital development by organising training programmes for postgraduate students, including PhD and MSc candidates as well as national and international interns. Today, CEBAR houses more than 35 staff and includes laboratories and a certified PC2 plant containment facility that conform to Australian/New Zealand Standard AS/NZS 2243.3:2010 and Australian Government's Guidelines for Certification of PC2 Plant Containment Facilities (2013 edition).

"Science is our passion"

We are passionate about science and we are always looking for ways to share it with communities. It is this passion that drives us to collaborate, develop, and communicate with impact.

CEBAR

CEBAR leverages Malaysia's mega biodiversity with the following Vision and Mission:

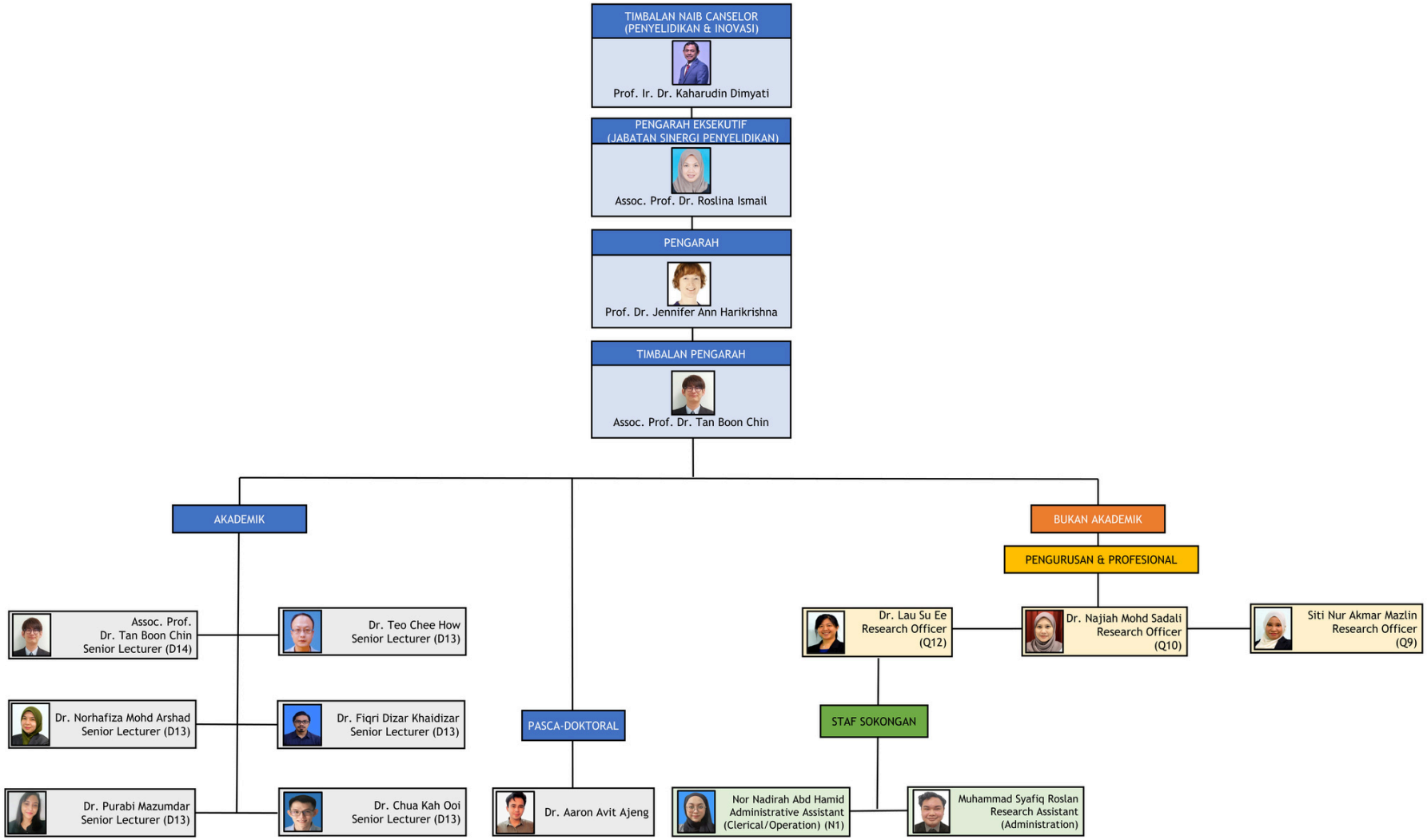
Vision

A world class research centre for Agbiotech, advancing a sustainable bioeconomy.

Mission

Advancing Agbiotech through impactful research, quality education and effective engagement.

Organisation Chart of CEBAR



Academic Staff of CEBAR

Prof. Dr Jennifer Ann Harikrishna

Professor
Director of CEBAR
jennihari@um.edu.my

Expertise

- Plant molecular genetics
- Plant biotechnology
- Biosafety

Associate Prof. Dr. Tan Boon Chin

Associate Professor
Deputy Director of CEBAR
boonchin@um.edu.my

Expertise

- Plant cell and molecular biology
- Crop improvement and breeding
- Crop manipulation and genetic engineering

Dr. Purabi Mazumdar

Senior Lecturer
purabi@um.edu.my

Expertise

- Crop improvement
- Phytochemistry
- Biotic stress
- Smart farming

Dr. Fiqri Dizar Khaidizar

Senior Lecturer
fiqri@um.edu.my

Expertise

- Cellular senescence
- Nicotinamide Phosphoribosyltransferase (NAMPT)

Academic Staff of CEBAR

Dr. Teo Chee How
Senior Lecturer
cheehow.teo@um.edu.my
Expertise
- Plant biology
- Biotechnology and genetics

Dr. Norhafiza Mohd Arshad
Senior Lecturer
norhafiza@um.edu.my
Expertise
- Immunology
- Cell Biology
- Molecular Biology
- Cancer Research

Dr. Chua Kah Ooi
Senior Lecturer
kahooi@um.edu.my
Expertise
- Molecular microbiology
- Bacterial genomics
- Eukaryotic organelle genomics

Laboratories & Facilities of CEBAR

Molecular Lab

Biochemistry Lab

Terra Aqua Lab

Postharvest Lab

Interactome Lab

Plant Biotechnology Incubator Unit

Plant Biotech Facility

Plant Growth Room

Integrated Plant Research Lab

Bioinformatics Lab

Master of Agricultural Biosecurity

Introduction

The Master of Agricultural Biosecurity programme is your gateway to becoming a leader in the critical field of biosecurity. This coursework-based degree equips you with a comprehensive understanding of key topics, ranging from cutting-edge detection and diagnostics to the challenges of agricultural pests and diseases. With core courses covering Advances in Detection and Diagnostics for Biosecurity, Agricultural Biotechnology, Epidemiology of Agricultural Pests and Diseases, Malaysian and International Environmental Policy, and Risk Assessment and Management of Biosecurity, you will develop a robust foundation in the discipline.

Academic Calendar Session 2025/2026

ACADEMIC CALENDAR 2025/2026 ACADEMIC SESSION (MASTER AND DOCTORATE LEVEL) AMENDMENT					
SEMESTER I					
Orientation *(Week of Welcome) - WOW*	1	week	05.10.2025	-	12.10.2025
Lectures	6	weeks*	13.10.2025	-	23.11.2025
Mid Semester I Break	1	week	24.11.2025	-	30.11.2025
Lectures	8	weeks*	01.12.2025	-	25.01.2026
Revision Week	1	weeks*	26.01.2026	-	01.02.2026
Semester I Final Examination	3	weeks*	02.02.2026	-	22.02.2026
Semester I Break	2	week	23.02.2026	-	08.03.2026
	22	weeks			
SEMESTER II					
Lectures	7	weeks*	09.03.2026	-	26.04.2026
Mid Semester II Break	1	week	27.04.2026	-	03.05.2026
Lectures	7	weeks*	04.05.2026	-	21.06.2026
Revision Week	1	week*	22.06.2026	-	28.06.2026
Semester II Final Examination	3	weeks*	29.06.2026	-	19.07.2026
Semester II Break	4	weeks	20.07.2026	-	16.08.2026
	23	weeks			
SPECIAL SEMESTER					
Lectures	7	weeks*	27.07.2026	-	13.09.2026
Special Semester Final Examination	1	week*	14.09.2026	-	20.09.2026
Special Semester Break	1	week	21.09.2026		28.09.2026
	9	weeks			

Programme Structure

COURSE CODE	PROGRAMME CORE COURSE	CREDIT	SEMESTER
HQB7001	Research Methodology	3	1
HQB7002	Agricultural Biosecurity Research Project	12	2, 3
HQB7003	Detection and Diagnostics for Biosecurity	3	1
HQB7004	Communication, Culture, Cooperation, Community and Compliance	3	1
HQB7005	Advances in Agricultural Biotechnology	3	2
HQB7006	Epidemiology of Agricultural Pests and Diseases	3	2
HQB7007	Malaysian and International Environmental Policy	3	2
HQB7008	Risk Assessment and Management of Biosecurity	3	1
	Total	33	
COURSE CODE	**ELECTIVE COURSE – CHOOSE 3 COURSES**	**CREDIT**	**SEMESTER**
HQB7009	Plant Biosecurity	3	1
HQB7010	Bioethics	3	1
HQB7011	Animal Biosecurity	3	2
HQB7012	Infectious and Emerging Diseases	3	2
HQB7013	Sustainable Agricultural Development	3	1
	Total	15	
	TOTAL CREDIT	**42**	

Study Plan

Full time

Year	Component	Semester I			Semester II			Semester III		
		Code	Course	Credit	Code	Course	Credit	Code	Course	Credit
1	Core courses	HQB7001	Research Methodology	3	HQB7005	Advances in Agricultural Biotechnology	3	HQB7002	Agricultural Biosecurity Research Project	8
		HQB7003	Detection and Diagnostics for Biosecurity	3	HQB7006	Epidemiology of Agricultural Pests and Diseases	3			
		HQB7004	Communication, Culture, Cooperation, Community and Compliance	3	HQB7007	Malaysian and International Environmental Policy	3			
		HQB7008	Risk Assessment and Management of Biosecurity	3	HQB7002	Agricultural Biosecurity Research Project	4			
			Total Credit	12		**Total Credit**	13			
	Elective courses (Choose 3 courses only)	HQB7009	Plant Biosecurity	3	HQB7011	Animal Biosecurity	3			
		HQB7010	Bioethics	3	HQB7012	Infectious and Emerging Diseases	3			
		HQB7013	Sustainable Agricultural Development	3						
			Total Credit	6		**Total Credit**	3		**Total Credit**	8
	Total Overall Credit (42 credit)			**18**		**16**			**8**	

Part time

Year	Component	Semester I			Semester II			Semester III		
		Code	Course	Credit	Code	Course	Credit	Code	Course	Credit
1	Core courses	HQB7001	Research Methodology	3	HQB7005	Advances in Agricultural Biotechnology	3			
		HQB7003	Detection and Diagnostics for Biosecurity	3	HQB7006	Epidemiology of Agricultural Pests and Diseases	3			
	Elective courses (Complete 9 credit within study duration)		Elective 1	3		Elective 2	3			
			Total Credit	**9**		**Total Credit**	**9**			
2	Core courses	HQB7004	Communication, Culture, Cooperation, Community and Compliance	3	HQB7007	Malaysian and International Environmental Policy	3	HQB7002	Agricultural Biosecurity Research Project	8
		HQB7008	Risk Assessment and Management of Biosecurity	3	HQB7002	Agricultural Biosecurity Research Project	4			
	Elective courses (Complete 9 credit within study duration)		Elective 3	3						
			Total Credit	**9**		**Total Credit**	**7**		**Total Credit**	**8**
	Total Overall Credit (42 Credit)			**18**			**16**			**8**

Elective courses (Choose 3 only)

No.	Code	Course	Credit
1	HQB7009	Plant Biosecurity	3
2	HQB7010	Bioethics	3
3	HQB7011	Animal Biosecurity	3
4	HQB7012	Infectious and Emerging Diseases	3
5	HQB7013	Sustainable Agricultural Development	3

Programme Timetable for Academic Session 2025/2026

Semester 1

Day	Time	Course code	Course	Lecturer
Monday				
Tuesday	9 am - 12 pm	HQB7009	Plant Biosecurity	Dr Teo Chee How
	2 pm - 5 pm	HQB7004	Communication, Culture, Cooperation, Community and Compliance	Dr. Zulfirdaus Zakaria
Wednesday	2 pm - 5 pm	HQB7003	Detection and Diagnostics for Biosecurity	Dr Fiqri Dizar Khaidizar
Thursday	9 am - 12 pm	HQB7010	Bioethics	Dr. Kivaandra Dayaa Rao A/L Ramarao
	2 pm - 5 pm	HQB7013	Sustainable Agricultural Development	Dr. Fiqri Dizar Khaidizar
Friday	9 am - 12 pm	HQB7008	Risk Assessment and Management of Biosecurity	Dr Norhafiza Mohd Arshad
	2 pm - 5 pm	HQB7001	Research Methodology	Dr Chua Kah Ooi

Semester 2

Day	Time	Course code	Course	Lecturer
Monday	9 am - 12 pm	HQB7006	Epidemiology of Agricultural Pests and Diseases	Dr Purabi Mazumdar
Tuesday	9 am - 12 pm	HQB7005	Advances in Agricultural Biotechnology	Dr Tan Boon Chin
Wednesday	10am- 1pm	HQB7011	Animal Biosecurity	Dr Norhafiza Mohd Arshad
	2 pm - 5 pm	HQB7007	Malaysian and International Environmental Policy	Dr. Adibi Rahiman Bin Md Nor
Thursday	9 am - 12 pm	HQB7012	Infectious and Emerging Diseases	Dr Purabi Mazumdar
Friday				

Special semester

Day	Time	Course code	Course	Lecturer
		HQB7002	Agricultural Biosecurity Research Project	Professor Dr Jennifer Ann Harikrishna

Entry Requirements to Master of Agricultural Biosecurity

University General Entry Requirements:

Possess a Bachelor's Degree with a CGPA of 3.00/4.00.

OR

Possess a Bachelor's Degree with a CGPA of 2.50 - 2.99 and;

The applicant must fulfil at least one (1) of the following criteria:

1) Universiti Malaya graduate or;

2) Has at least one (1) year of work experience in related fields or;

3) Has produced publications in related fields or;

4) A scholarship recipient or;

5) A staff member of a government agency or;

6) Pass an interview conducted by the Faculty or;

7) Pass a special evaluation by the Faculty.

Entry Requirements to Master of Agricultural Biosecurity

Programme Special Requirements

Aspect	Requirements
University's General Requirement	Met the University's General Requirement
Bachelor's Degree Qualification	Possessed a Bachelor's Degree
Equivalent Qualification	(i) Possessed Professional qualification from a recognized professional body or (ii) Possessed Professional qualification approved by Senate from time to time. or (iii) APEL (A) qualification
Related Field	Biological science or agricultural science field or related field of study or equivalent.
Special Requirements	-
English Language Competency Requirements	
MUET	B4.0
IELTS	6.0
TOEFL iBT (Centre-based)	60
TOEFL Essentials (Online)	8.5
Pearson Test of English (PTE) Academic	59
B1 Preliminary, B2 First, C1 Advanced, C2 Proficiency	169

Programme Learning Outcomes (PLOs)

No.	Programme Learning Outcome(s) (PLO)
PLO1	Demonstrate comprehensive knowledge and understanding across disciplines related to agricultural biosecurity.
PLO2	Analyze, evaluate, and integrate up-to-date information from relevant sources into the field of agricultural biosecurity.
PLO3	Identify, design, and provide innovative and effective solutions to problems related to agricultural biosecurity with limited guidance, and produce reliable data for scientific reports either individually or in groups.
PLO4	Apply knowledge in agricultural biosecurity to strengthen communication and enhance the ability to work as a team.
PLO5	Utilize diverse information, media applications, and technology to calculate, analyze, interpret, and present data.
PLO6	Demonstrate leadership qualities and interpersonal skills in planning, resource management, and problem-solving within a group in academic activities.
PLO7	Enhance commitment to lifelong learning and manage information in the field of agricultural biosecurity.
PLO8	Demonstrate understanding, awareness, and adherence to biosafety norms, ethics, professionalism, and legal requirements, as well as awareness of commercial and social issues related to agricultural biosecurity.

PRO-FORMA:
HQB7001
Research Methodology

Academy/Faculty/Institute/Centre	Institute for Advanced Studies
Course Pre-requisite(s)/Minimum Requirement(s)	None
Student Learning Time	120
Credit	3
Course Learning Outcomes	At the end of the course, students are able to: 1. Apply online databases in conducting literature surveys to determine problem statements and research questions or research hypotheses with a focus on research related to the field of agricultural biosecurity. 2. Analyse literature surveys based on autocratic sources of information to design a research proposal in the field of agricultural biosecurity. 3. Produce a research proposal and appropriate research methodologies to be used for research in agricultural biosecurity
Synopsis of Course Contents	This course will describe the research methodology used to collect and analyse the data required to address the research questions and test the hypothesised relationships developed in a study with emphasises on data sampling method, literature surveys, and qualitative and quantitative data analysis in agricultural biosecurity field.
Assessment Weightage	Continuous Assessment: 100% Final exam: 0%

PRO-FORMA:
HQB7002
Agricultural Biosecurity Research Project

Academy/Faculty/Institute/Centre	Institute for Advanced Studies
Course Pre-requisite(s)/Minimum Requirement(s)	For students of Masters of Biosecurity in Agriculture who have completed semester 1 and passed the Research Methodology course
Student Learning Time	480
Credit	12
Course Learning Outcomes	At the end of the course, students are able to: 1. Propose scientific research and present it orally 2. Integrate information and data related to agriculture biosecurity 3. Produce data and its analysis in the form of mini thesis and perform oral presentation to a scientific community
Synopsis of Course Contents	This subject is designed to allow students to apply the skills and knowledge they have acquired throughout the course in areas of particular importance to themselves or their employer. The project will report on the rationale, methods and results of the research and will be assessed on the basis of the quality of a submitted dissertation.
Assessment Weightage	Continuous Assessment: 100% Final exam: 0%

PRO-FORMA: HQB7003 Detection and Diagnostics for Biosecurity

Academy/Faculty/Institute/Centre	Institute for Advanced Studies
Course Pre-requisite(s)/Minimum Requirement(s)	None
Student Learning Time	120
Credit	3
Course Learning Outcomes	At the end of the course, students are able to: 1. Explain the scientific principles behind detection and diagnostics methodologies implemented in current biosecurity control measures. 2. Evaluate the efficacy and impact of various detection and diagnostics methodologies implemented in current biosecurity control measures. 3. Enhance detection and diagnostic strategies to address current and emerging biosecurity threats.
Synopsis of Course Contents	This subject will introduce students to the strategies, tools and technologies required for effective detection and diagnosis of regulated pests and diseases. It will focus on surveillance, monitoring, and diagnostic methods, including the traditional (taxonomy and microscopy) and advanced (molecular and biochemical) diagnostics, and requirements for certification of diagnostic laboratories and diagnostic protocols.
Assessment Weightage	Continuous Assessment: 60% Final exam: 40%

PRO-FORMA: HQB7004 Communication, Culture, Cooperation, Community and Compliance

Academy/Faculty/Institute/Centre	Institute for Advanced Studies
Course Pre-requisite(s)/Minimum Requirement(s)	None
Student Learning Time	120
Credit	3
Course Learning Outcomes	At the end of the course, students are able to: 1. Apply basic theories and skills of communication, culture, cooperation, community, and compliance. 2. Analyse theory to explore the challenges of communication management and the implications for public relations practice. 3. Create relevant cross-cultural communication theories and skills for stakeholder engagement, with consideration of inclusiveness of minority communities, biosecurity awareness and compliance.
Synopsis of Course Contents	This course explores the theory and practice of communication and public relations, focusing on local, regional and global as well as cultural perspectives. Students will critically engage with theory to explore the challenges of communication management in different cultural contexts and the implications for public relations practice. Topics include stakeholder engagement, with consideration of inclusiveness of minority communities; biosecurity awareness and compliance.
Assessment Weightage	Continuous Assessment: 70% Final exam: 30%

PRO-FORMA: HQB7005 Advances in Agricultural Biotechnology

Academy/Faculty/Institute/Centre	Institute for Advanced Studies
Course Pre-requisite(s)/Minimum Requirement(s)	None
Student Learning Time	120
Credit	3
Course Learning Outcomes	At the end of the course, students are able to: 1. Explain biotechnology processes that may be used to develop strategies in agriculture. 2. Determine the latest technologies and processes related to agriculture. 3. Evaluate current events and issues related to agriculture.
Synopsis of Course Contents	This course will introduce students to the fundamentals and issues arising from new biotechnology platforms such as recombinant DNA technology, RNAi, genome editing, haploid technology and nanobiotechnology.
Assessment Weightage	Continuous Assessment: 70% Final exam: 30%

PRO-FORMA: HQB7006 Epidemiology of Agricultural Pests and Diseases

Academy/Faculty/Institute/Centre	Institute for Advanced Studies
Course Pre-requisite(s)/Minimum Requirement(s)	None
Student Learning Time	120
Credit	3
Course Learning Outcomes	At the end of the course, students are able to: 1. Analyse agricultural pests and diseases epidemiology 2. Evaluate risk factors associated with agricultural pests and diseases 3. Develop surveys related to agricultural pests and diseases
Synopsis of Course Contents	This course will provide an understanding of the epidemiology of plant diseases and pests, emphasising methods and tools for designing, conducting, and analysing epidemiological studies. This course will also cover risk factor analysis, determine sample sizes, develop and analyse surveys, and understand biases in surveys.
Assessment Weightage	Continuous Assessment: 70% Final exam: 30%

PRO-FORMA: HQB7007 Malaysian and International Environmental Policy

Academy/Faculty/Institute/Centre	Institute for Advanced Studies
Course Pre-requisite(s)/Minimum Requirement(s)	None
Student Learning Time	120
Credit	3
Course Learning Outcomes	At the end of the course, students are able to: 1. Examine international and local environmental policies. 2. Appraise scientific, legal, political and ethical perspectives on environmental problems. 3. Produce policy recommendations to improve the implementation of environmental policy
Synopsis of Course Contents	This course is a blend of both theory and practical learning which will equip students with skills and competencies in environmental policy-making. Students will be introduced to major international environmental treaties, with a particular emphasis on biological diversity, biosafety, marine biodiversity and fisheries, and climate change, and how major treaties translate into national policy and legislation. Students will also be introduced to the role of science, ethics, politics and legislation in environmental policymaking, and are given practical opportunities to put their knowledge into practice during the two weeks of skills workshop and assessments. Upon successful completion, students should have an understanding of the role of environmental treaties and policies, and be equipped with skills to evaluate and improve environmental policy.
Assessment Weightage	Continuous Assessment: 70% Final exam: 30%

PRO-FORMA:
HQB7008
Risk Assessment and Management of Biosecurity

Academy/Faculty/Institute/Centre	Institute for Advanced Studies
Course Pre-requisite(s)/Minimum Requirement(s)	None
Student Learning Time	120
Credit	3
Course Learning Outcomes	At the end of the course, students are able to: 1. Identify acceptable and unacceptable risks in laboratory biosecurity and their potential consequences. 2. Evaluate the risk management by conducting a review of the process. 3. Develop a strategy to mitigate the risk of biological agents using appropriate principles, technologies and management
Synopsis of Course Contents	Biological Security (biosecurity) refers to the protection of people, plants and animals from pests and diseases. It is a broad, multidisciplinary field encompassing science, law, economics, mathematics and sociology. This course will introduce the international frameworks that drive global biosecurity and the Malaysian biosecurity system. Using real-life examples and case studies this course covers preparedness, surveillance, diagnostics, emergency response and management of pests and diseases.
Assessment Weightage	Continuous Assessment: 70% Final exam: 30%

PRO-FORMA:
HQB7009
Plant Biosecurity

Academy/Faculty/Institute/Centre	Institute for Advanced Studies
Course Pre-requisite(s)/Minimum Requirement(s)	None
Student Learning Time	120
Credit	3
Course Learning Outcomes	At the end of the course, students are able to: 1. Describe basic principles of biosecurity for plants. 2. Apply basic understanding and application of plant biosecurity in examining emerging plant biosecurity challenges. 3. Design risk management strategy based on the knowledge gained from various biosecurity policies, standards and delivery systems
Synopsis of Course Contents	This course will focus on aspects of biosecurity, policy, standards, delivery systems and risk management for plants. It will examine biosecurity threats and emerging biosecurity challenges affecting crops and plantations. Students will be asked to apply their knowledge to a mock biosecurity case study.
Assessment Weightage	Continuous Assessment: 50% Final exam: 50%

PRO-FORMA: HQB7010 Bioethics

Academy/Faculty/Institute/Centre	Institute for Advanced Studies
Course Pre-requisite(s)/Minimum Requirement(s)	None
Student Learning Time	120
Credit	3
Course Learning Outcomes	At the end of the course, students are able to: 1. Apply basic and applied principles of bioethics to understand a variety of bioethical dilemmas. 2. Assess ethical issues and dilemmas in a critical and independent way. 3. Make ethical decisions to address unethical issues.
Synopsis of Course Contents	This course aims to provide students with knowledge and understanding about ethical principles in agricultural research, practices, technological applications and governance. Using various examples, case studies and group discussions, students will have the opportunity to apply basic and applied bioethics principles to solve ethical issues and dilemmas in agriculture and propose ethical policy framework or decisions.
Assessment Weightage	Continuous Assessment: 70% Final exam: 30%

PRO-FORMA:
HQB7011
Animal Biosecurity

Academy/Faculty/Institute/Centre	Institute for Advanced Studies
Course Pre-requisite(s)/Minimum Requirement(s)	None
Student Learning Time	120
Credit	3
Course Learning Outcomes	At the end of the course, students are able to: 1. Explain the basic concepts of biosecurity in animal agriculture from small-to large- scale operations 2. Demonstrate an integrated understanding of important and complex issues surrounding animal biosecurity 3. Demonstrate knowledge of biosafety issues related to animal food security and be able to interpret and transmit these to specialist and non-specialist audiences 4. Validate disease agent-host-environmental interactions that result in disease
Synopsis of Course Contents	This subject will provide students with detailed knowledge in the discipline of terrestrial and aquatic animal biosecurity. Topics include farm biosecurity, biosecurity of major domestic animals and aquaculture biosecurity. Students will gain knowledge of complex interactions between infectious and non-infectious factors that impact animal health and human activities that impact animal and aquatic biosecurity.
Assessment Weightage	Continuous Assessment: 70% Final exam: 30%

PRO-FORMA: HQB7012 Infectious and Emerging Diseases

Academy/Faculty/Institute/Centre	Institute for Advanced Studies
Course Pre-requisite(s)/Minimum Requirement(s)	None
Student Learning Time	120
Credit	3
Course Learning Outcomes	At the end of the course, students are able to: 1. Analyse infectious and emerging disease data 2. Analyse the disease impact in the populations to describe the magnitude of an infectious and emerging disease in plant and animal systems (livestock and fishes) 3. Evaluate factors related to infectious and emerging disease and evaluate associations between these factors
Synopsis of Course Contents	This subject provides an overview of emerging infectious diseases not only in Malaysia but internationally. It will cover microorganism-related diseases in plants and animals (livestock and fishes), various transmission and virulence mechanisms of microorganisms and prevention measures.
Assessment Weightage	Continuous Assessment: 70% Final exam: 30%

PRO-FORMA: HQB7013 Sustainable Agricultural Development

Academy/Faculty/Institute/Centre	Institute for Advanced Studies
Course Pre-requisite(s)/Minimum Requirement(s)	None
Student Learning Time	120
Credit	3
Course Learning Outcomes	At the end of the course, students are able to: 1. Explain the concepts related to natural resource management, the global concept of sustainability, and the concept of sustainable agriculture in particular. 2. Evaluate the efficacy and impact of various methods and strategies being put to use to drive sustainable agriculture. 3. Propose approaches to drive acceptance of sustainable agricultural practices. 4. Create suitable approaches to support agricultural sustainability in the fields.
Synopsis of Course Contents	This subject will introduce students to the concepts of sustainability and sustainable agriculture as well as skills to develop and manage sustainable production systems. It will examine the key animal and crop production practices associated with sustainable agriculture as well as systems of natural resource management that underpin sustainable agricultural systems. Students will be exposed to field level realities, including developing and implementing a minor research project related to sustainable agriculture. Some of these will involve meetings and discussions with local experts.
Assessment Weightage	Continuous Assessment: 60% Final exam: 40%

How to apply?

1. Go to Universiti Malaya's MAYA website (http://https://maya.um.edu.my/).
   Create new account or login using your email.
2. After log in, select 'Admission' on the top.
3. Click 'Apply Other Programme' when in the Admission Page.
4. At the Programme Selections page, select "Nationality".
5. At the Mode of Implementation, select "Conventional".
6. Search the programme by typing the keyword such as "Agricultural Biosecurity".
7. Scroll down the page, you will find the search results and click on the link, "MASTER OF AGRICULTURAL BIOSECURITY".
8. At the Programme Selection Page, click on "Apply".

Contact US

03-7967 6990

http://cebar.um.edu.my

cebar@um.edu.my

Centre for Research in Biotechnology for Agriculture (CEBAR),
Level 3,
Research Management and Innovation Complex,
Universiti Malaya,
50603, Kuala Lumpur