

MODULE DESCRIPTION FORM

Module Information			
Module Title	<b>BIOSAFETY and SECURITY</b>	Module Delivery	
Module Type	<b>Suport learning activity</b>	<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar	
Module Code	<b>BSS1050</b>		
ECTS Credits	<b>3</b>		
SWL (hr/sem)	<b>75</b>		
Module Level	UGI	Semester of Delivery	2
Administering Department	AGME1986	College	AGFO1964
Module Leader	<b>Yousif Yakoub Hilal</b>	e-mail	<a href="mailto:Yousif.Yakoub@uomosul.edu.iq">Yousif.Yakoub@uomosul.edu.iq</a>
Module Leader's Acad. Title	<b>Assistant Professor</b>	Module Leader's Qualification	<b>Ph.D.</b>
Module Tutor	N.A.	e-mail	N.A.
Peer Reviewer Name	N.A.	e-mail	N.A.
Scientific Committee Approval Date	1/2/2026	Version Number	1.0

Relation with other Modules			
Prerequisite module	ACE1020	Semester	1
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents	
Module Objectives	<ol style="list-style-type: none"> <li>Equip students with fundamental knowledge of biosafety and biosecurity principles and their practical application in agricultural, forestry, and food-related settings.</li> <li>Enable students to develop the skills necessary to identify, assess, and manage biological hazards, ensuring the protection of human health, the environment, and food products.</li> </ol>
Module Learning	The student should be able to:

### Module Aims, Learning Outcomes and Indicative Contents

<b>Outcomes LOs</b>	<p>LO#1: Identify common biological hazards in agriculture, forestry, and food sectors, and assess their level of risk.</p> <p>LO#2: Apply biosafety and biosecurity principles and practices in accordance with recognized international standards and levels.</p> <p>LO#3: Design and implement prevention and control programs for biological hazards in laboratories and agricultural/food production facilities.</p> <p>LO#4: Adhere to ethical and legal considerations when handling biological materials, ensuring public health and environmental protection.</p>
<b>Indicative Contents</b>	<p>Indicative content includes the following.</p> <p><u>Theoretical</u></p> <p>The course covers the concepts of biosafety and biosecurity, risk assessment, regulations, and safe laboratory techniques, with practical training on using personal protective equipment, sterilization, and waste disposal. It also enhances understanding of emergency response and designing biosecurity protocols in agricultural and food sectors, aiming to ensure worker safety and protect products and the environment.</p> <p>Total hrs = 75 = SSWL - (Exam hrs) = 47-2 = 28 hrs (Time table hrs x 15 weeks)</p>

### Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

<b>Strategies</b>	<ol style="list-style-type: none"> <li>1. <b>(Interactive Lectures)</b></li> <li>2. <b>(Project-Based Learning)</b></li> <li>3. <b>(Case Studies)</b></li> <li>4. <b>(Workshops and Hands-On Training)</b></li> <li>5. <b>(Group Discussions and Presentations)</b></li> </ol>
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### Student Workload (SWL)

<b>Structured SWL (h/sem)</b>	47	<b>Structured SWL (h/w)</b>	3
<b>Unstructured SWL (h/sem)</b>	28	<b>Unstructured SWL (h/w)</b>	2
<b>Total SWL (h/sem)</b>	<b>75</b>		

### Module Evaluation

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
<b>Formative assessment</b>	<b>Quizzes</b>	2	10% (10)	4 and 11	LO#1 and LO#2
	<b>Home Assignments</b>	2	10% (10)	2 and 13	LO#1 and LO#3
	<b>College Assignments</b>	2	10% (10)	All	All
	<b>Report</b>	1	10% (10)	14	LO#1, LO#2 and LO#4

<b>Summative assessment</b>	<b>Midterm Exam</b>	2hr	10% (10)	7	LO#1, LO#2 and LO#3
	<b>Final Exam</b>	2hr	50% (50)	16	All
<b>Total assessment</b>			100% (100 Marks)		

<b>Delivery Plan (Weekly Syllabus)</b>	
	<b>Material Covered</b>
Week 1	Introduction to Biosafety and Biosecurity
Week 2	Types of Biological Hazards in the Agricultural and Food Sectors
Week 3	Risk Assessment and Management
Week 4	Biosafety Levels and International Standards
Week 5	Personal Protective Equipment (PPE) and Safe Work Practices
Week 6	Sterilization, Disinfection, and Biological Waste Disposal
Week 7	Mid-term Exam
Week 8	Safe Storage, Handling, and Transport of Biological Materials
Week 9	Good Laboratory Practices (GLP) and Quality Standards
Week 10	Biosecurity in Agriculture and Protection of Plant and Animal Resources
Week 11	Emergencies and Rapid Response to Biological Incidents
Week 12	Local and International Regulations on Biosafety and Biosecurity
Week 13	Ethical Considerations and Dual-Use of Biological Technologies
Week 14	Case Studies and Practical Applications in Biosafety and Biosecurity
Week 15	Workshops and Simulations for Biosafety Protocol Design
Week 16	Comprehensive Review and Final Assessment

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#### Learning and Teaching Resources

	<b>Text</b>	<b>Available in the Library?</b>
<b>Required Texts</b>	Basics of Biological and Occupational Safety in Laboratories and Scientific Institutions / Ministry of Higher Education - University of Kufa / College of Agriculture - Department of Food Sciences.	-
<b>Recommended Texts</b>	Biosafety and Biosecurity Training and Education Materials/Biorisk Management Guide May 2020 - This guide was issued in cooperation with the Ministry of Higher Education and the Iraqi Ministry of Health.	-
<b>Websites</b>		

#### Grading Scheme

<b>Group</b>	<b>Grade</b>	<b>Marks %</b>	<b>Definition</b>
<b>Success Group (50 - 100)</b>	<b>A - Excellent</b>	90 – 100	Outstanding Performance
	<b>B - Very Good</b>	80 – 89	Above average with some errors
	<b>C - Good</b>	70 – 79	Sound work with notable errors
	<b>D - Satisfactory</b>	60 – 69	Fair but with major shortcomings
	<b>E - Sufficient</b>	50 – 59	Work meets minimum criteria
<b>Fail Group</b>	<b>FX – Fail</b>	(45-49)	More work required but credit awarded

(0 – 49)	F – Fail	(0-44)	Considerable amount of work required
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**Note:** Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.



رئيس اللجنة العلمية  
أ.د. محمد احمد مراد

