

**SULTAN QABOOS UNIVERSITY****COURSE OUTLINE****PROGRAM: Bachelor of Science in Plant Sciences**

1. Course Code	PLNT4546	
2. Course Title	IPDM	
3. Credits	3 Cr Hrs, 12 Cr Points, 6 ECTS	
4. Pre-requisite Course(s)	CROP4540, CROP4542; BIOL2101, CAMS2000, CAMS2003, CAMS3000, CAMS3001, CHEM2101, PHYS (2101 or 2107)	
5. Co-requisite Course(s)		
6. Equivalent Course(s)	CROP4528, CROP4544	
7. Incompatible Course(s)		
8. Course Category	<input type="checkbox"/> University Requirement	<input type="checkbox"/> University Elective
	<input type="checkbox"/> College Requirement	<input type="checkbox"/> College Elective
	<input checked="" type="checkbox"/> Department Requirement	<input type="checkbox"/> Department Elective
	<input type="checkbox"/> Specialization Requirement	<input type="checkbox"/> Specialization Elective
	<input type="checkbox"/> Other (specify):	
9. Course Owner	College: CAMS	Department: Plant Sciences
10. Course Type	<input type="checkbox"/> Lecture	<input checked="" type="checkbox"/> Lecture/Lab
	<input type="checkbox"/> Lecture/Seminar	<input type="checkbox"/> Lecture/Studio
	<input type="checkbox"/> Lecture/Tutorial	<input type="checkbox"/> Lecture/Lab/Tutorial or Seminar
	<input type="checkbox"/> Tutorial	<input type="checkbox"/> Laboratory (Practical)
	<input type="checkbox"/> Field or Work Placement	<input type="checkbox"/> Studio
	<input type="checkbox"/> Seminar	<input type="checkbox"/> Internship
	<input type="checkbox"/> Workshop	<input type="checkbox"/> Project
11. Language of Instruction	English	
12. Course Description		
This course covers principles of agricultural pest and disease management, emphasizing economic feasibility and decreasing dependence on synthetic pesticide promoting a healthy environment. Sampling techniques used in monitoring of crops pests and diseases are introduced. Students will conduct pests and disease monitoring in selected crops. Cultural, mechanical, biological and chemical control methods and their economical integration will be discussed. Students will also require to prepare a IPDM program for selected agricultural crops (fruits/vegetables).		
13. Teaching/Learning Strategies		
Lectures notes/powerpoint slides Laboratroy sessions Writing reports on monitoring projects Preparing IPDM program Instructional videos		
14. Assessment Components and Weight [%]		
<input checked="" type="checkbox"/> Quizzes 10	<input checked="" type="checkbox"/> Practical 15%	<input type="checkbox"/> Other (specify):
<input type="checkbox"/> Homework assignments	<input checked="" type="checkbox"/> Project 15%	
<input checked="" type="checkbox"/> In-term examination(s) 20%	<input checked="" type="checkbox"/> Final examination 40%	
15. Grading Method		
<input checked="" type="checkbox"/> A-F Scale <input type="checkbox"/> Pass/Not passed		
16. Textbook(s) and Supplemental Material		
1. Flint, M.L. 2012. IPM in Practice: Principles and Methods of Integrated Pest Management. 2nd Edition. University of California, Agricultural and Natural Resources. 292 pp.		

2. Fry. 1982. Principles of Plant Disease Management
3. Agrios, G.N. 2005. Plant Pathology (5th edition). Academic Press, NY.

17. Matching Course Objectives with Program Outcomes and SQU Graduate Attributes

SQU Graduate Attributes

A. SQU graduates should be able to: <ol style="list-style-type: none"> 1. apply the knowledge and skills relevant to the specialization 2. communicate effectively and use information and communication technologies 3. critically analyze complex information and present it in simple clear manner 	B. SQU graduates possess <ol style="list-style-type: none"> 1. interpersonal communication skills and alignment with culture of international labour market to assist them in practical life and in living successfully 2. skills and motivation for independent learning and engagement in lifelong learning and research 3. work ethics and positive values, and intellectual independence and autonomy 4. teamwork skills and display potential leadership qualities 	C. SQU graduates should <p>relish good citizenship qualities, be conscious of their national identity and be socially responsible, engage in community affairs and be mindful of contemporary issues.</p>
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#	Intended Student Learning Outcome /Course Learning Objective	Relevant Program Outcome(s)	Applicable Attribute(s)
1.	Explain principles and components of Integrated Pest Management	-Graduates will have knowledge and skills in crop sciences (A.1.1) -Graduates will have ability to effectively communicate orally and in writing (A.2.1)	A.1. A.2
2.	Describe economic threshold and economic injury levels of pests in relation to pest management	-Graduates will have knowledge and skills in crop sciences (A.1.1) -Graduates will have ability to effectively communicate orally and in writing (A.2.1) -Graduates will be motivated to engage in independent life-long learning (B.2)	A.1, A.2, B.2
3.	Describe and select appropriate pest sampling techniques for pest monitoring	-Graduates will have knowledge and skills in crop sciences (A.1.1) -Graduates will be motivated to engage in independent life-long learning (B.2)	A.1, B.2
4.	Explain the concept of degree-days model and use it in pest forecasting	-Graduates will have knowledge and skills in crop sciences (A.1.1) -Graduates will be motivated to engage in independent life-long learning (B.2)	A.1, B.2
5.	Construct an IPM program for a crop of choice by integrating cultural, mechanical, biological and chemical methods	-Graduates will be able to identify and analyze problems related to crop production systems, and formulate realistic solutions (A.1.5) -Graduates will have ability to effectively communicate orally and in writing (A.2.1) -Graduates will be motivated to engage in independent life-long learning (B.2)	A.3, A.2, B.3, B4, C
6.	Write a written report on pest scouting and IPM program	-Graduates will be able to use the information technology for searching and processing data relevant to crop sciences and landscape design (A.3) -Graduates will have ability to effectively communicate orally and in writing (A.2.1) -Graduates will be motivated to engage in independent life-long learning (B.2)	A.3, A.2, B.3, B4
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12.	Describe the concept, objectives, background and basis of integrated disease management	-Graduates will have knowledge and skills in crop sciences (A.1.1) -Graduates will be motivated to engage in independent life-long learning (B.2)	A.1, B.2
13.	Identify the problems associated with the current crop protection systems	-Graduates will have knowledge and skills in crop sciences (A.1.1) -Graduates will have ability to effectively communicate orally and in writing (A.2.1) -Graduates will be motivated to engage in independent life-long learning (B.2)	A.1, A.2, B.2
14.	Identify the main reasons that help initiate motivation for integrated disease management	-Graduates will have knowledge and skills in crop sciences (A.1.1) -Graduates will have ability to effectively communicate orally and in writing (A.2.1)	A.1, A.2
15.	Explain principles (avoidance, exclusion, eradication, protection, resistance, and therapy) of disease management and why the knowledge of different aspects of disease development is essential for effective and economic disease control	Graduates will have knowledge and skills in crop sciences (A.1.1) -Graduates will have understanding of crop production systems in Oman (A.1.2) -Graduates will have ability to effectively communicate orally and in writing (A.2.1) -Graduates will be motivated to engage in independent life-long learning (B.2)	A.1, A.2, B.2
16.	Application of ecology of diseases of crops (age diversity and plant resistance), disease forecasting and economics of disease control in integrated disease management	-Graduates will be able to identify and analyze problems related to crop production systems, and formulate realistic solutions (A.1.5) -Graduates will have ability to effectively communicate orally and in writing (A.2.1)	A.1, A.2
17.	Categorize the regulatory controls at regional and international levels for the introduction of new crops into certain areas	-Graduates will be able to identify and analyze problems related to crop production systems, and formulate realistic solutions (A.1.5) -Graduates will be able to use the information technology for searching and processing data relevant to crop sciences and landscape design (A.3)	A.1, A.3
18.	Describe biotechnological, biological (induced host plant resistance, reduction of inoculum and protection of plant surfaces) and chemical methods used in integrated disease management	-Graduates will have knowledge and skills in crop sciences (A.1.1) -Graduates will have ability to effectively communicate orally and in writing (A.2.1)	A.1, A.2
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16. Student Responsibilities

It is the student's responsibility to know and comply with all University Academic Regulations relevant to participation in this course. These regulations specifically include attendance requirement and students' academic code of conduct.

For attendance, it is the student's responsibility to be punctual and to attend all classes.

Students are expected to perform their work with honesty and avoid any academic misconduct, which is defined as the use of any dishonest or deceitful means to gain some academic advantage or benefit. This can take many forms, including but not limited to, the following: copying, plagiarism, collusion and forging documents. For full details, please refer to the Undergraduate Academic Regulations and to the Student Academic Misconduct Policy.

Additionally, this course requires that you:

COURSE INFORMATION			
Course Code	CROP4546	Course Title	IPDM
Semester/ Year	Spring/2024	Section(s)	10,11
Day, Time, and Place	Sundays and Tuesdays; 2:15-4:00 PM		
Course Coordinator	Dr. Muhammad Shahid (x1209) and Dr. Ahmad Nawaz (Tel. Ext. 1217)		
Office Location	AGR116	Office Hours	Tuesday 10:00-11:50
Office Tel. Ext.	1209	Email	mshahid@squ.edu.om; a.nawaz1@squ.edu.om

Tentative Schedule			
Week	Lecture #	Topic/Material to be covered	Assessment
1	Lec 1	Introductin to IDM	
2	Lec 2	Principles of plant disease management	IDM project/labs report @ 15%
3	Lec 3	Chemical control	
4	Lec 4	Pysical methods	Quiz 1 @ 5%
5	Lec 5	Biological control	
6	Lec 6	Cultural practices	
7	Lec 7	Host plant resistance	Test 1 @ 10%
8	Lec 8	INSECT PEST MANAGEMENT	
9	9	Pest sampling, monitoring and forecasting	
	Lab 1	Development of field monitoring data sheets	
10	10	IPDM introduction, importance, history; IPM principles	Quiz 2 @ 5%
	Lab 2	Selection of IPM project and Pest sampling methods	
11	11	Cultural and physical management methods	
	Lab 3	Mechanical and physical management methods	
12	12	Regulatory/legal and mechanical methods	Test 2 @ 10%
	Lab 4	Work on IPM project	
13	13	Biological and genetic management methods	IPM project report @ 15%
	Lab 5	Compiling IPM project	
14	14	Chemical management methods	
	Lab 5	New frontiers in IPM	
15	15		
16		Final Theory Exam (IPM and IDM 20% each)	Final exam @ 40%
17			

[illegible]

APPENDIX B: ADDITIONAL INFORMATION