



SULTAN QABOOS UNIVERSITY

COURSE OUTLINE

PROGRAM: Bachelor of Science in Plant Sciences

1. Course Code	PLNT3006	
2. Course Title	Field Crop Production	
3. Credits	3 Cr Hrs , 12 Cr Points, 6 ECTS	
4. Pre-requisite Course(s)	BIOL2101, PLNT2515	
5. Co-requisite Course(s)		
6. Equivalent Course(s)	CROP3005, CROP4005, AGRN4005	
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: College of Agricultural and Marine Sciences	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 is a course with in-depth information on production aspects of field crops, with focus on the field crops grown in Oman, including origin, crop botany, soil and climatic requirements, and practices of production, harvesting and post-harvesting. The course also covers cropping systems and cropping intensity, principles and types of crop rotation, production constraints in Oman and measures to optimize crop productivity. Introduction to precision agriculture is also an important component of this course.		
13. Teaching/Learning Strategies		
Lectures; field trip(s); videos, laboratory sessions; field project		
14. Assessment Components and Weight [%]		
<input checked="" type="checkbox"/> Quizzes 10	<input checked="" type="checkbox"/> Practical 15	<input type="checkbox"/> Other (specify):
<input checked="" type="checkbox"/> Homework assignments 5	<input type="checkbox"/> Project 15	
<input checked="" type="checkbox"/> In-term examination(s) 15	<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. Reddy.S.R. 2004. Principles of Crop Production. Kalyani Publishers, New Delhi, India 2. Martin, J.H., R.P. Waldren and D.L. Stamp. 2006. Principles of Field Crop Production, 4th Ed., the MacMillan Co., New York. 3. Stafford, J.V. 2007. Precision Agriculture. Wageningen Academic Publishers, the Netherlands.		

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>

#	Intended Student Learning Outcome /Course Learning Objective	Relevant Program Outcome(s)	Applicable Attribute(s)
1.	Explain the importance of field crops for food security in Oman.	Graduates will have knowledge and skills in crop sciences Graduates will have understanding of crop production systems in Oman Graduates will be motivated to engage in independent life-long learning Graduates will have knowledge of relevant Omani laws, and understanding and motivation for environmental protection, resource conservation and social service.	A1, B2, C
2.	Classify field crops based on different basis including life span, root depth, growth habit, CO ₂ fixation, mode of pollinations, utility-base, climate-base, growing season, etc.,	Graduates will have knowledge and skills in crop sciences Graduates will be able to analyze and interpret data, draw conclusion and propose solutions to different issues in crop production, landscape design, and crop protection Graduates will be motivated to engage in independent life-long learning	A1, A3, B2
3.	Explain cropping systems of Oman and region, demonstrate ways to calculate cropping intensity	Graduates will have knowledge and skills in crop sciences Graduates will have understanding of crop production systems in Oman Graduates will be motivated to engage in independent life-long learning Graduates will have knowledge of relevant Omani laws, and understanding and motivation for environmental protection, resource conservation and social service.	A1, B2, C
4.	Explain crop rotation, its principles and types	Graduates will have knowledge and skills in crop sciences Graduates will have understanding of crop production systems in Oman Graduates will be motivated to engage in independent life-long learning Graduates will have knowledge of relevant Omani laws, and understanding and motivation for environmental protection, resource conservation and social service.	A1, B2, C
5.	Explain criteria of essentiality of crop nutrients, classify essential nutrients and explain methods of fertilizer application	Graduates will have knowledge and skills in crop sciences	A1, A3

		Graduates will be able to analyze and interpret data, draw conclusion and propose solutions to different issues in crop production, landscape design, and crop protection	
6.	Demonstrate how to calculate crop nutrient and fertilizer requirements	Graduates will have knowledge and skills in crop sciences Graduates will have understanding of crop production systems in Oman Graduates will be able to analyze and interpret data, draw conclusion and propose solutions to different issues in crop production, landscape design, and crop protection	A1, A3
7.	Explain tillage and conservation tillage, and their objectives; classify tillage types and tillage implements	Graduates will have knowledge and skills in crop sciences Graduates will have understanding of crop production systems in Oman Graduates will be able to analyze and interpret data, draw conclusion and propose solutions to different issues in crop production, landscape design, and crop protection	A1, A3
8.	Classify weeds, explain types of weeds, and different weed control methods	Graduates will have knowledge and skills in crop sciences Graduates will have understanding of crop production systems in Oman Graduates will be able to analyze and interpret data, draw conclusion and propose solutions to different issues in crop production, landscape design, and crop protection	A1, A3
9.	Demonstrate calibration and use of seed drills and herbicide sprayer	Graduates will have knowledge and skills in crop sciences	A1
10.	Explain origin, history, botany, soil and climate requirement, tillage, planting, plant nutrition, irrigation, weed control, harvesting, and post-harvest operations of field crops with focus on crops of Oman.	Graduates will have knowledge and skills in crop sciences Graduates will have understanding of crop production systems in Oman. Graduates will be motivated to engage in independent life-long learning Graduates will be able to analyze and interpret data, draw conclusion and propose solutions to different issues in crop production, landscape design, and crop protection Graduates will be able to compete with high standards of academic integrity and professionalism on the national and international scenes	A1, A2, A3, B2, B3, B4
11.	Explain production constraints for field crops in Oman and propose measures to optimize crop productivity	Graduates will have knowledge and skills in crop sciences Graduates will be able to identify and analyze problems related to crop production systems, and formulate realistic solutions Graduates will be motivated to engage in independent life-long learning Graduates will have knowledge of relevant Omani laws, and understanding and motivation for environmental protection, resource conservation and social service.	A3, B2

12.	Apply the knowledge gained in conducting project experiments	<p>Graduates will be able to identify and analyze problems related to crop production systems, and formulate realistic solutions</p> <p>Graduates will be able to analyze and interpret data, draw conclusion and propose solutions to different issues in crop production, landscape design, and crop protection</p> <p>Graduates will be motivated to engage in independent life-long learning</p> <p>Graduates will understand and follow professional and social norms and ethics.</p> <p>Graduates will have the ability to build teams and work in team for target oriented tasks.</p>	A1, B2, B3
13.	Analyze the results of project experimnts and present the knowledge gained orally and in writing as project report	<p>Graduates will be able to use the information technology for searching and processing data relevant to crop sciences and landscape design</p> <p>Graduates will be able to analyze and interpret data, draw conclusion and propose solutions to different issues in crop production, landscape design, and crop protection</p> <p>Graduates will have ability to effectively communicate orally and in writing</p> <p>Graduates will understand and follow professional and social norms and ethics.</p> <p>Graduates will have the ability to build teams and work in team for target oriented tasks.</p>	A2, A3, B1, B3, B4
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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:

Complete a research project, prepare a research report and present your findings.

COURSE INFORMATION			
Course Code	PLNT3006	Course Title	Field Crop Production
Semester/ Year	Spring	Section(s)	10, 11
Day, Time, and Place			
Course Coordinator	Muhammad Farooq		
Office Location	AGR 222	Office Hours	
Office Tel. Ext.	3623	Email	farooqcp@squ.edu.om

Tentative Schedule			
Week	Lecture #	Topic/Material to be covered	Assessment
1	Lec 1	Course Outline, Concept of crop production, Classification of field crops	
	Lab 1	Introduction to laboratory; lab safety instructions, projects	
2	Lec 2	Cropping systems and Cropping intensity	
	Lab 2	Identification of crops and their seeds	
3	Lec 3	Crop rotations; principles and types	
	Lab 3	Planting project experiments at SQU, AES	
4	Lec 4	Crop nutrition and green manuring	Quiz-1 (5%)
	Lab 4	Quiz test-1 Calculation of crop nutrient requirements	
5	Lec 5	Tillage; Objectives and types	
	Lab 5	Demonstration of different tillage implements and improved sowing methods	
6	Lec 6	Weed management	
	Lab 6	Calibration of herbicide sprayers and calculations	
7	Lec 7	Production technology of major cereal crops-I	
	Lab 7	Calibration of seed and fertilizer drill; Weeding of project experiments	
8	Lec 8	Production technology of major grain legume crops	Mid-term (15%)
	Lab 8	Mid Term test Seed inoculation and seed treatment with fungicides	
9	Lec 9	Production technology of major cereal crops-II	
	Lab 9	Field visit to research centre and farmer's field	
10	Lec 10	Production technology of major oilseed crops	
	Lab 10	Crop appraisal and yield estimation of field crops	
11	Lec 11	Production technology of sugar and fiber crops	
	Lab 11	Demonstration of harvesting and threshing operations	
12	Le 12	Production technology of special and alternate crops	Quiz-2 (5%)
	Lab 12	Quiz test-2 Project presentations	
13	Lec 13	Production constraints and measures to optimize crop productivity in Oman	
	Lab 13	Project presentations	
14	Lec 14	Precision agriculture	
	Lab 14	Group discussion	
15		Final Lab Exam	Lab exam (15%)
16		Course overview and wrap-up	
17		Final Exam	Final exam (40%) Project (15%) Assignment (5%)

APPENDIX A: INSTRUCTORS OF MULTIPLE SECTIONS

[illegible]

APPENDIX B: ADDITIONAL INFORMATION