



SULTAN QABOOS UNIVERSITY

COURSE OUTLINE

PROGRAM: Agricultural Engineering

1. Course Code	SWAE2001	
2. Course Title	Introduction to Agricultural Engineering	
3. Credits	3CR, 12 CP, 6 ECTS	
4. Pre-requisite Course(s)	FPEL0560 or FPEL0600 or FPEL0601 or FPEL0602 or FPEL0603 or FPEL0604	
5. Co-requisite Course(s)		
6. Equivalent Course(s)		
7. Incompatible Course(s)		
8. Course Category	<input type="checkbox"/> University Requirement	<input type="checkbox"/> University Elective
	<input checked="" type="checkbox"/> College Requirement	<input type="checkbox"/> College Elective
	<input 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: SWAE
10. Course Type	<input checked="" type="checkbox"/> Lecture	<input 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 deals with the basics of Agricultural Engineering. The major goal is to expose students in the areas of power and machinery, post harvest technology, food process engineering, and soil and water engineering. The overall course objective is to provide the student with necessary basic conceptual ideas and tools in Agricultural Engineering.		
13. Teaching/Learning Strategies		
Students will engage with the content of the course through a mixture of classroom lectures and field demonstration. Students will be encouraged to participate in the discussion during lectures. Emphasis is on solving engineering problems in the areas of financial analysis, farm machinery, farm power, conveying systems; food systems, hydrologic systems, and land surveying. There will be 1 comprehensive final and 4 announced quizzes to assess student achievements..		
14. Assessment Components and Weight [%]		
<input checked="" type="checkbox"/> Quizzes 40%	<input type="checkbox"/> Practical	<input type="checkbox"/> Other (specify):
<input checked="" type="checkbox"/> Homework assignments 20%	<input type="checkbox"/> Project	
<input type="checkbox"/> In-term examination(s)	<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		
<ul style="list-style-type: none"> Eide, A.R., R.D. Jenison, L.H. Mashaw and L.L. Northup. 2002. Engineering Fundamentals & Problem Solving. WCB/McGraw-Hill. New York. Roth, L.O. and H.L. Field. 1991. Introduction to Agricultural Engineering. Kluwer Academic Publishers 		

17. Matching Course Objectives with Program Outcomes and SQU Graduate Attributes		
SQU Graduate Attributes		
A. SQU graduates should be able to: 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 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 relish good citizenship qualities, be conscious of their national identity and be socially responsible, engage in community affairs and be mindful of contemporary issues.

#	Intended Student Learning Outcome /Course Learning Objective	Relevant Program Outcome(s)	Applicable Attribute(s)
1.	An ability to apply knowledge of mathematics, science, and engineering	Demonstrate proficiency in application of agricultural engineering principles in real world problem	A1
2.	Students are able to apply basic problem-solving techniques to agricultural problems and issues.	Demonstrate proficiency in engineering solution in agricultural related problems	A2,A3
3.	Learn and understand the internal combustion engines, power applications, postharvest processing soil water conservation and the erosion of productive soil	. Learn operations and implement them for personal and employer's success. . Contribute to the welfare of the society at regional and global levels. . Maintain the standards of health, safety, environment and professional ethics at work and society	A1, A2, B2
4.	Apply the knowledge and skills gained from this course in topics relate to agricultural engineering including farm mechanisation, postharvest Technology, soil and water conservation	Contribute to the welfare of the society at regional and global level	A1,A3
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16. Student Responsibilities
<p>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.</p> <p>For attendance, it is the student's responsibility to be punctual and to attend all classes.</p> <p>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.</p>

Additionally, this course requires that you:

COURSE INFORMATION			
Course Code	SWAE2001	Course Title	Introduction to Agricultural Engineering
Semester/ Year	Spring 2019	Section(s)	
Day, Time, and Place			
Course Coordinator	Dr. Pankaj Pathare		
Office Location	245 Anx	Office Hours	
Office Tel. Ext.	1222	Email	pankaj@squ.edu.om

Tentative Schedule			
Week	Lecture #	Topic/Material to be covered	Assessment
1	Engg. Fundamental	Introduction to Agricultural Engineering	
2		Dimensions, Units & Conversions Assignment 1	5%
3		Engineering Design Process	
4		Financial Analysis Quiz 1	10%
5	Introduction to Agricultural Power & Machinery	Internal Combustion Engines	
6		Tractor Assignment 2	5%
7		Tillage	
8		Application of Agrochemicals Quiz 2	10%
9	Postharvest Handling & Food Process Engg.	Post harvest Handling	
10		Introduction to Food Processing Engineering Assignment 3	5%
11		Special Topics in Food Processing Engineering Quiz 3	10%
12	Soil & Water Engg.	Land Surveying	
13		Properties of Soil & Water Assignment 4	5%
14		Hydrologic Cycle	
15		Irrigation Methods Quiz 4	10%
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APPENDIX A: INSTRUCTORS OF MULTIPLE SECTIONS

[illegible]

APPENDIX B: ADDITIONAL INFORMATION