



Degree and Study Plan

College: College of Agriculture & Marine Sciences &
 College of Engineering
 Department: Soils, Water and Agricultural Engineering
 Cohort: 2020
 Degree: Bachelor of Engineering
 Major: Agricultural Engineering

<u>Summary of Credits:</u>	
University Requirements (UR)	6
Arabic	2
Contemporary Omani State & People	2
Oman & Islamic Civilization or Islamic Culture	2
University Electives (UE)	6
See List A	
College Requirements (CR)	35
See list B	
College Electives (CE)	
See list C	
Departmental Requirements (DR)	
See list D	
Departmental Electives	
See list E	
Major Requirements (AR)	80
See list F	
Major Electives (AE)	9
See list G	
Specialization Requirements (SR)	
See list J	
Specialization Electives (SE)	
See list K	
Minor Requirements (IR)	
See list H	
Minor Electives (IE)	
See list I	
TOTAL	136

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Ext. 1226

HoD: **Dr. Hemantha Jayasuriya**
 Dean's Office: **Dr. Abdullah Al-Sadi**
 Admission and Registration:

Date:
 Date:
 Date:

DEPARTMENT OF SOIL, WATER AND AGRICULTURAL ENGINEERING
AGRICULTURAL ENGINEERING (B. Eng.)

Study Plan: for Cohort 2020

Sem.	Course Code	Course Title	Cr.	Pre-req./Co-req.*	Cat.
ONE FALL		Foundation Program	0		UR
	TOTAL		0		

TWO SPRING	ARAB1060	Arabic ¹	2		UR
	SOCY1005	Contemporary Omani State & People ²	2		UR
	CHEM2101	General Chemistry I	4	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604), FPMT(0105 or 0109)	CR
	MATH2107	Calculus I	4	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604), FPMT(0105 or 0109)	CR
	LANC2145	Communication in Agricultural Sciences	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	CR
	CAMS2000	Intro. CAMS	0		AR
	TOTAL		15		

THREE FALL	HIST1010	Oman & Islamic Civilization	2	=ISLM1010	UR
	LANC2146	Academic Writing in Science	3	LANC2145	CR
	PHYS2107	Physics for Engineering I	4	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604), FPMT(0105 or 0109) and MATH2107	CR
	MATH2108	Calculus II	3	MATH2107	CR
	SWAE2001	Introduction to Agricultural Engineering	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	CR
	SWAE2307	Workshop Practice I	1	PHYS(2101 or 2107)	CR
	TOTAL		16		

FOUR SPRING	PLNT2515	Introduction to Plant Sciences	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	AR
	MATH3171	Linear Algebra & MV Calculus	3	MATH2108	CR
	MEIE3104	Engineering Drawing & Computer Graphics	3		AR
	SWAE2201	Introduction to Soil & Water	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	AR
	SWAE2302	Fundamentals of Agricultural Machinery	3	SWAE(2001 or 2201)	AR
	TOTAL		15		

FIVE FALL	MEIE2129	Basic Mechanics	3	PHYS2107	AR
	MEIE3141	Thermodynamics I	3	CHEM2101, MATH2107, PHYS(2102 or 2108)	AR
	PHYS2108	Physics for Engineering II	4	PHYS(2101 or 2107)	CR
	SWAE3005	Land Surveying	3	MATH2107, PHYS(2101 or 2107)	AR
	SWAE3303	Elements of Hydrology	3	PHYS(2101 or 2107), SWAE(2001 or 2201)	AR
	TOTAL		16		

SIX SPRING	MATH4174	Differential Equations for Engineers	3	LANC2146, MATH2108	CR
	SWAE3306	Computer Programming	3	MATH2107, PHYS(2101 or 2107)	CR
	BIOL2101	General Biology I	4	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	AR
	CAMS2003	Intro. to Food & Resource Economics	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	AR
	CAMS3001	Biometry & Experimental Design in AMS	3	CAMS2000, FPMT(0105 or 0109), LANC2146	AR
	TOTAL		16		

SEVEN FALL	CAMS3000	Seminar & Presentation Skills	2	CAMS2000, FPMT(0105 or 0109), LANC2146	AR
	ECCE3015	Electrical Engineering Fundamentals	3	PHYS(2101 or 2107)	AR
	SWAE3201	Power Units	3	SWAE(2001 or 2302) , MEIE 2129 and MEIE3141*	AR
	SWAE3310	Fundamentals of Fluid Mechanics	3	MATH2107, PHYS(2101 or 2107)	AR
	SWAE3402	Irrigation Principles	3	SWAE2201	AR
		University Elective	2		UE
	TOTAL		16		

EIGHT SPRING	SWAE3001	GIS for Environmentalists	3	LANC 2146 or 2041 or 2052 or 2058	AR
	FSHN3101	Properties of Food and Agr. Materials	3	PHYS(2101 or 2107)	AR
	SWAE3203	Postharvest Technology & Quality	3	MATH2107, PHYS(2101 or 2107),	AR
	SWAE3307	Workshop Practice II	2	SWAE2307 and MEIE 2129	AR
		University Elective	2		UE
		University Elective	2		UE
	TOTAL		15		

SUMMER	SWAE4801	Agricultural Engineering Internship	0	After 95 Credits, CR*	CR
	TOTAL		0		

NINE FALL	CAMS4001	Management & Business Skills	3	CR*	AR
	FSHN3102	Elements of Food Engineering	3	PHYS(2101 or 2107) and FSHN3101	AR
	SWAE3308	Instrumentation & Control Systems	3	MATH2107, PHYS(2101 or 2107) and ECCE3015*	AR
	SWAE4300	Agricultural Engineering Design I	3	SWAE3201, MEIE3141 and After 95 Credits + CR*	AR
	SWAEXXXX	Major Elective	3	Check pre-requisites	AE
	TOTAL		15		

Ten SPRING	SWAE4301	Agricultural Engineering Design II	3	SWAE4300	AR
	SWAE4304	Modeling & Analysis of Bio-physical Systems	3	MATH2107, PHYS(2101 or 2107) and MATH4174* + CR*	AR
	SWAEXXXX	Major Elective	3	Check pre-requisites	AE
	SWAEXXXX	Major Elective	3	Check pre-requisites	AE
	TOTAL		12		

* for AE Major students

*CR - CAMS college requirements which are BIOL2101, CAMS2000, CAMS2003, CAMS3000, CAMS3001, CHEM2101, PHYS2101 or PHYS2107.

DEPARTMENT OF SOIL, WATER AND AGRICULTURAL ENGINEERING**AGRICULTURAL ENGINEERING (B. Eng.)****LIST B: College Requirements (35 Credits)**

Course Code	Course Title	Cr.	Pre-Requisite
CAMS2000	Introduction to Agricultural and marine Sciences	0	
CHEM2101	General Chemistry I	4	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604), FPMT(0105 or 0109)
LANC2145	Communication in Agricultural Sciences	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)
LANC2146	Academic Writing in Science	3	LANC2145
MATH2107	Calculus I	4	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604), FPMT(0105 or 0109)
MATH2108	Calculus II	3	MATH2107
MATH3171	Linear Algebra & MV Calculus	3	MATH2108
MATH4174	Differential Equations for Engineers	3	LANC2146, MATH2108
PHYS2107	Physics for Engineering I	4	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604), FPMT(0105 or 0109)
PHYS2108	Physics for Engineering II	4	PHYS(2101 or 2107)
SWAE2307	Workshop Practice I	1	PHYS(2101 or 2107)
SWAE3306	Computer Programming	3	MATH2107, PHYS(2101 or 2107)
SWAE4801	Agricultural Engineering Internship	0	After 95 credits, + CR*

*CR - CAMS college requirements which are BIOL2101, CAMS2000, CAMS2003, CAMS3000, CAMS3001, CHEM2101, PHYS2101 or PHYS2107.

DEPARTMENT OF SOIL, WATER AND AGRICULTURAL ENGINEERING

AGRICULTURAL ENGINEERING (B. Eng.)

LIST F: Major Requirements (80 Credits)

Course Code	Course Title	Cr.	Pre-Requisite	Equivalents
BIOL2101	General Biology	4	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	
CAMS2003	Introduction to Food & Resource Economics	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	MEIE4285
CAMS3000	Seminar & Presentation Skills	2	CAMS2000, FPMT(0105 or 0109), LANC2141	
CAMS3001	Biometry & Experimental Design in AMS	3	CAMS2000, FPMT(0105 or 0109), LANC2141	
CAMS4001	Management & Business Skills	3	CR*	MEIE4286
CROP2510	Introduction to Crop Production	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	
ECCE3015	Electrical Engineering Fundamentals	3	PHYS(2101 or 2107)	
FSHN3101	Properties of Food and Agricultural Materials	3	PHYS(2101 or 2107)	
FSHN3102	Elements of Food Engineering	3	PHYS(2101 or 2107)	
MEIE2129	Basic Mechanics	3	PHYS2107	
MEIE3104	Engineering Drawing & Computer Graphics	3		MEIE3146
MEIE3141	Thermodynamics I	3	CHEM2101, MATH2107, PHYS(2102 or 2108)	
SWAE2001	Introduction to Agricultural Engineering	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	
SWAE2201	Introduction to Soil & Water	3	FPEL(0560 or 0600 or 0601 or 0602 or 0603 or 0604)	
SWAE2302	Fundamentals of Agricultural Machinery	3	SWAE(2001 or 2201)	SWAE2002
SWAE3001	GIS for Environmentalists	3	LANC 2146 or 2041 or 2052 or 2058	
SWAE3005	Land Surveying	3	MATH2107, PHYS(2101 or 2107)	CIVL3056
SWAE3201	Power Units	3	SWAE(2001 or 2302) , MEIE 2129 and MEIE3141*	
SWAE3203	Postharvest Technology & Quality Management	3	MATH2107, PHYS(2101 or 2107), SWAE2001	
SWAE3303	Elements of Hydrology	3	PHYS(2101 or 2107), SWAE(2201 or 2001)	
SWAE3307	Workshop Practice II	2	SWAE2307 and MEIE 2129	
SWAE3308	Instrumentation & Control Systems	3	MATH2107, PHYS(2101 or 2107) and ECCE3015*	
SWAE3310	Fundamentals of Fluid Mechanics	3	MATH2107, PHYS(2101 or 2107)	
SWAE3402	Irrigation Principles	3	SWAE(2101 or 2002 or 2201)	
SWAE4300	Agricultural Engineering Design I	3	SWAE3201, MEIE3141 and After 95 Credits + CR*	
SWAE4301	Agricultural Engineering Design II	3	SWAE4300	
SWAE4304	Modelling & Analysis of Bio-physical Systems	3	MATH2107, PHYS(2101 or 2107) and MATH4174*+ CR*	

* for AE Major students

LIST G: Major Electives (9 Credits)

Course Code	Course Title	Cr.	Pre-Requisite	Equivalents
MEIE3102	Solid Mechanics	3	MEIE2129	
FSHN3107	Food Sanitation & Quality Control	3	BILO3441 or FSHN2101	
MEIE3262	Materials Science & Engineering	3	CHEM2101	
SWAE3325	Desalination and Membrane Technology	3	MATH2107, CHEM2101, PHYS(2101 or 2107)	
SWAE4001	Remote Sensing of the Environment	3	SWAE3001 + CR*	
FSHN4101	Food & Process Engineering	3	FSHN(3102 or 3106) or PHYS2101 + CR*	
SWAE4202	Tillage & Soil Machine Relations	3	SWAE3201 + CR*	
SWAE4203	Principles of Machinery	3	SWAE3201 + CR*	

SWAE4204	Advances in Postharvest Technology	3	SWAE3203 + CR*	
SWAE4302	Agriculture in Controlled Environment	3	(SWAE2001 or CROP2510) + CR*	
SWAE4400	Groundwater Hydrology	3	SWAE3303 + CR*	
SWAE4402	Designs & Management of Irrigation Systems	3	SWAE3402 + CR*	

* CR - CAMS college requirements which are BIOL2101, CAMS2000, CAMS2003, CAMS3000, CAMS3001, CHEM2101, PHYS2101 or PHYS2107.

¹ Non-Arabic speakers should register for ARAB1019 (3 credits), offered only during fall semesters.

² Non-Omanis should register for SOCY1007 (2 credits)