



OSUN STATE UNIVERSITY, OSOGBO

COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY

PROPOSED

DEPARTMENT OF AGRICULTURAL AND BIO- RESOURCES ENGINEERING

**TITLE OF PROPOSED DEGREE: B. Eng. (Hons) Agricultural and Bio-Resources
Engineering**

SCHEDULE OF COURSES

HARMATTAN SEMESTER 100 LEVEL

Course code	Course Title	L T P	Units	Status
CHM 101	General Chemistry I	2 1 0	3	C
CHM 107	Experimental Chemistry I	0 0 3	1	C
CVE 101	Engineering in Society	2 0 0	2	C
MEE 101	Engineering Drawing I	1 0 3	2	C
MTH 101	General Mathematics I	2 1 0	3	C
PHY 101	General Physics I	2 1 0	3	C
PHY 107	Experimental Physics I	0 0 3	1	C
GNS 101	Use of English I	2 0 0	2	R
GNS 103	Use of Library	1 0 0	1	R
	TOTAL UNITS	12 3 9	18	

L-Lecture; T- Tutorial; P-Practicals; C-Compulsory; R-Required

RAIN SEMESTER 100 LEVEL

Course code	Course Title	L T P	Units	Status
CHM 102	General Chemistry II	2 1 0	3	C
CHM 108	Experimental Chemistry II	0 0 3	1	C
MEE 102	Workshop Technology I	1 0 3	2	C
MEE 104	Engineering Drawing II	1 0 3	2	C
MTH 102	General Mathematics II	2 1 0	3	C
MTH 104	General Mathematics III	2 1 0	3	C
PHY 102	General Physics II	2 1 0	3	C
PHY 108	Experimental Physics II	0 0 3	1	C
GNS 102	Use of English II	2 0 0	2	R
GNS 104	Nigerian Peoples and Culture	2 0 0	2	R
	TOTAL UNITS	14 4 12	22	

HARMATTAN SEMESTER 200 LEVEL

Course code	Course Title	Pre-requisite/ co-requisite	L T P	Units	Status
CSC 201	Structured Programming	-	2 0 3	3	C
EEE 201	Applied Electricity	PHY102	2 1 0	2	C
EEE 231	Engineering Mathematics I	MTH101	2 1 0	3	C
EEE 291	Applied Electricity Laboratory I	PHY108	0 0 3	1	C
MEE 201	Engineering Materials	PHY102	2 0 1	2	C
MEE 203	Engineering Mechanics I	PHY101	2 0 1	2	C
MEE 207	Basic Thermodynamics	-	2 1 1	3	C
STA 221	Statistics for Physical Sciences & Engineering	MTH101	3 1 0	3	C
GNS 203	Introduction to Entrepreneurial Skills	-	2 0 0	2	R
GNS 211	Basic French	-	2 0 1	2	R
	TOTAL UNITS		19 4 10	23	

RAIN SEMESTER 200 LEVEL

Course code	Course Title	Pre-requisite/ co-requisite	L T P	Units	Status
ABE 202	Basic Agriculture and Bio-Resources Engineering	PHY102	1 1 0	2	C
AGN 202	Principles of Soil Science	-	2 0 2	2	C
CVE 206	Strength of Materials	-	3 1 1	3	C
EEE 202	Applied Electricity II	EEE201	2 0 1	2	C
EEE 232	Engineering Mathematics II	MTH102	3 1 0	3	C
EEE 292	Applied Electricity Laboratory II	EEE291	0 0 3	1	C
MEE 204	Engineering Mechanics II	MEE203	2 0 2	2	C
MEE 206	Basic Fluid Mechanics	-	2 0 1	2	C
MEE 208	Workshop Technology II	MEE102	1 0 3	2	C
GNS 204	Logic and Philosophy	-	2 0 0	2	R
GNS 212	Introduction to Information and Communication Technology	-	2 0 0	2	R
	TOTAL UNITS		19 2 13	23	

LONG VACATION- 8 WEEKS

Course code	Course Title	Pre-requisite/ co-requisite	L T P	Units	Status
ABE 200	Students Workshop Experience Programme, SWEP I		0 0 30	2	C
	TOTAL UNITS		0 0 30	2	

HARMATTAN SEMESTER 300 LEVEL

Course code	Course Title	Pre-requisite/ co-requisite	L	T	P	Units	Status
ABE 301	Workshop Practices		0	0	3	2	C
ABE 303	Farm Electrification	EEE201	2	0	3	2	C
ABE 305	Environment and Agriculture	-	1	0	1	1	C
ABE 307	Biotechnology and Bio-resources Studies	-	1	0	1	1	C
ABE 309	Farm Mechanisation		2	0	2	2	C
ABE 311	Geology for Agricultural Engineers	-	1	1	1	2	C
AGN 321	Production Techniques of Arable and Permanent Crops	-	2	0	2	2	C
ANS 321	Animal Science for Agricultural Engineers	-	2	0	2	2	C
MEE 307	Strength of Materials Lab	CVE201	2	0	1	1	C
EEE 331	Engineering Mathematics III	EEE231	3	1	0	3	C
MEE 301	Mechanics of Machines I	MEE203	2	1	3	2	C
MEE 313	Engineering Metallurgy	CVE202	2	0	1	2	C
MEE 315	Mechanics of Machines Laboratory I	MEE203	0	0	3	1	C
	TOTAL UNITS		19	2	22	23	

RAIN SEMESTER 300 LEVEL

Course code	Course Title	Pre-requisite/ co-requisite	L	T	P	Units	Status
AEE 304	Fundamentals of Farm Management	-	2	1	0	2	C
ABE 302	Basic Agricultural Soil Mechanics	AGY202	2	0	2	2	C
ABE 304	Computer Aided Design and Machine Drawing	MEE101,102	1	1	2	2	C
ABE 306	Agricultural Land Surveying	-	1	0	3	2	C
ABE 308	Basic Concepts in Environmental Engineering	-	2	0	0	2	C
ABE 310	Farm Mechanics	MEE206	1	0	3	1	C
EEE 332	Engineering Mathematics IV	EEE232	3	1	0	3	C
MEE 302	Mechanics of Machines II	MEE301	2	1	1	2	C
MEE 318	Fluid Mechanics	MEE206	3	0	1	3	C
MEE 310	Fluid Mechanics Laboratory	MEE206	0	0	3	1	C
MEE 316	Mechanics of Machines Laboratory II	MEE315	0	0	3	1	C
	TOTAL UNITS		17	4	18	21	

LONG VACATION- 8 WEEKS

Course code	Course Title	Pre-requisite/ co-requisite	L	T	P	Units	Status
ABE 300	Students' Industrial Works Experience Scheme (SIWES) I		0	0	30	2	C
	TOTAL UNITS	AEB200	0	0	30	2	

HARMATTAN SEMESTER 400 LEVEL

Course code	Course Title	Pre-requisite/ co-requisite	L T P	Units	Status
AEE 405	Agricultural & Rural Programme Extension Planning, Monitoring & Evaluation	-	1 0 0	1	C
ABE 401	Properties & Processing of Agricultural Materials	AEB306	2 0 3	3	C
ABE 403	Hydraulic Engineering	MEE303	1 0 2	2	C
ABE 405	Agricultural Hydrology	MEE303	2 0 2	2	C
ABE 407	Design of Agricultural and Food Processing Machines I	CVE202	2 0 3	3	C
ABE 409	Agricultural Structures Design	MEE303	2 0 3	2	C
ABE 411	Treatment and Disposal of Solid Wastes	-	2 0 3	2	C
ABE 413	Engineering Economics and Valuation	-	2 1 0	2	C
CVE 401	Technical Report Writing	-	2 0 0	2	C
	TOTAL		16 1 16	19	

RAIN SEMESTER AND LONG VACATION 400 LEVEL- 6 MONTHS

Course code	Course Title	Pre-requisite/ co-requisite	L T P	Units	Status
ABE 400	Students' Industrial Works Experience Scheme (SIWES) II	AEB300	0 0 90	6	C
	TOTAL		0 0 90	6	

HARMATTAN SEMESTER 500 LEVEL

Course code	Course Title	Pre-requisite/ co-requisite	L T P	Units	Status
ABE 501	Farm Machinery I	-	2 0 2	2	C
ABE 503	Design of Agricultural and Food Processing Machines II	AEB407	2 0 2	2	C
ABE 505	Farm Structures and Environmental Control Engineering	AEB411	2 1 2	2	C
ABE 507	Soil and Water Conservation Engineering	AEB405	2 0 2	2	C
ABE 509	Farm Power I	-	2 0 2	2	C
ABE 521	Soil Traction, Land Clearing and Development		2 0 2	2	C
ABE 525	Design and Research Project I	-	1 0 3	2	C
CVE 511	Industrial Economics	-	2 0 0	2	C
CVE 513	Industrial Law and Management	-	2 0 0	2	C
Any One of the following DEPARTMENTAL ELECTIVES					
ABE 519	Livestock Housings and Environment		2 0 2	2	E
ABE 523	Environmental Pollution		2 0 0	2	E
ABE 527	Farm Transportation		2 0 2	2	E
	TOTAL UNITS		19 1 17	20	

RAIN SEMESTER 500 LEVEL

OPTION A: CROP PROCESSING AND STORAGE/POST-HARVEST TECHNOLOGY

Course code	Course Title	Pre-requisite/ co-requisite	L T P	Units	Status
ABE 502	Farm Machinery II	AEB501	2 0 2	2	C
ABE 504	Processing and Storage of Agricultural Materials	AEB401	2 0 3	2	C
ABE 510	Farm Power II	AEB509	2 1 2	2	C
ABE 512	Heat Transfer and Mass		2 1 2	2	C
ABE 518	Mechanical Systems Analysis	MEE306	2 0 2	2	C
ABE 526	Design and Research Project II	AEB525	0 0 12	4	C
ABE 536	Food Engineering: Crop and Food Preservation	AEB405	2 0 3	2	C
ABE 542	Machine Production Design and Technology	AEB503	2 1 2	2	C
Any One of the following DEPARTMENTAL ELECTIVES					
ABE 520	Automatic Control, Robotics and Mechanics of Deformed Bodies		2 1 2	2	E
ABE 522	Automatic Services, Maintenance and Pneumatic Systems		2 1 2	2	E
ABE 530	Energy in Agriculture	AEB306	2 1 2	2	E
ABE 540	Agricultural Biotechnology		2 1 2	2	E
ABE 544	Solar Energy Applications to Processing and Storage		2 1 2	2	E
ABE 548	Advanced Thermodynamics	MEE205,206	2 1 2	2	E
	TOTAL UNITS		14 4 30	20	

**RAIN SEMESTER 500 LEVEL
OPTION B: FARM POWER AND MACHINERY**

Course code	Course Title	Pre-requisite/ co-requisite	L T P	Units	Status
ABE 502	Farm Machinery II	ABE 501	2 0 2	2	C
ABE 504	Processing and Storage of Agricultural Materials	ABE 401	2 0 3	2	C
ABE 510	Farm Power II	ABE 509	2 1 2	2	C
ABE 518	Mechanical Systems Analysis	MEE 306	2 0 2	2	C
ABE 520	Automatic Control, Robotics and Mechanics of Deformed Bodies		2 1 2	2	C
ABE 526	Design and Research Project II	ABE 525	0 0 12	4	C
ABE 536	Food Engineering: Crop and Food Preservation	ABE 405	2 0 3	2	C
ABE 542	Machine Production Design and Technology	ABE 503	2 1 2	2	C
Any One of the following DEPARTMENTAL ELECTIVES					
ABE 512	Heat Transfer		2 1 2	2	E
ABE 522	Automotive Services, Maintenance and Pneumatic Systems		2 1 2	2	E
ABE 530	Energy in Agriculture	ABE 306	2 1 2	2	E
ABE 540	Agricultural Biotechnology		2 1 2	2	E
ABE 546	Operations and Management of Farm Power and Machinery Systems		2 1 2	2	E
	TOTAL UNITS		14 3 30	20	

RAIN SEMESTER 500 LEVEL

**OPTION C: SOIL AND WATER/FARM STRUCTURES AND BIO-RESOURCES
ENGINEERING**

Course code	Course Title	Pre-requisite/ co-requisite	L T P	Units	Status
ABE 506	Design of Environmental Control Structures	AEB505/411	2 0 2	2	C
ABE 508	Agricultural Land Drainage	AEB507	2 0 2	2	C
ABE 514	Irrigation and Water Resources Development	AEB507	2 1 0	2	C
ABE 516	Bio-process Waste and Effluent Management	AEB413	2 1 2	2	C
ABE 524	Design of Irrigation, Hydraulic Control and Soil Conservation Structures	AEB411/505	2 1 2	2	C
ABE 526	Design and Research Project II	AEB525	0 0 12	4	C
ABE 532	Foundation Engineering and Livestock Housing	AEB519	2 1 2	2	C
ABE 534	Rural Infrastructures Engineering	AEE405	2 0 3	2	C
Any One of the following DEPARTMENTAL ELECTIVES					
ABE 522	Automotive Services, Maintenance and Pneumatic Systems		2 1 2	2	E
ABE 528	Advanced Soil Mechanics and Hydraulics	AEB503	2 1 2	2	E
ABE 540	Advanced Agricultural Biotechnology	AEB411	2 0 3	2	E
ABE 550	Rural Water Supply and Sanitation		2 1 2	2	E
	TOTAL UNITS		16 4 30	20	

B.Eng. Agricultural Engineering

100 LEVEL HARMATTAN SEMESTER

Course Code	Course Title	Units	Status	LH	PH
GST 111	Communication in English	2	C	15	45
CHM 101	General Chemistry I	2	C	30	0
CHM 107	General Chemistry Practical I	1	C	0	45
MTH 101	Elementary Mathematics I	2	C	30	0
MTH 103	Elementary Mathematics III	2	C	30	0
PHY 101	General Physics I	2	C	30	0
PHY 103	General Physics III	2	C	30	0
PHY 107	General Physics Practical I	1	C	0	45
COS 101	Introduction to Computing Sciences	3	C	30	45
GET 101	Engineer in Society	1	C	15	0
STA 111	Descriptive Statistics	3	C	45	0
	TOTAL	21			

100 LEVEL RAIN SEMESTER

Course Code	Course Title	Units	Status	LH	PH
GST 112	Nigerian Peoples and Culture	2	C	30	0
CHM 102	General Chemistry II	2	C	30	0
CHM 108	General Chemistry Practical II	1	C	0	45
MTH 102	Elementary Mathematics II	2	C	30	0
PHY 102	General Physics II	2	C	30	0
PHY 104	General Physics IV	2	C	30	0
PHY 108	General Physics Practical II	1	C	0	45
ABE 102	Introduction to Agricultural and Biosystem Engineering	2	C	30	0
COS 102	Problem Solving	2	C	30	0
GET 102	Engineering Graphics and Solid Modelling I	2	C	15	45
STA 112	Probability I	3	C	45	0
		21			