



JOY UNIVERSITY
semper paratus

**School of Agricultural Sciences
B.Tech Agricultural Engineering**

I Semester

Sl. No	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1	BTAE 1101	Engineering Mathematics-I	2	0	1	5	3
2	BTAE 1102	Engineering Physics	2	0	1	5	3
3	BTAE 1103	Engineering Chemistry	2	0	1	5	3
4	BTAE 1104	Principles of Soil Science	2	0	1	5	3
5	BTAE 1105	Surveying and Levelling	1	0	2	7	3
6	BTAE 1106	Engineering Mechanics	2	0	1	5	3
7	BTAE 1107	Engineering Drawing	0	0	2	6	2
8	BTAE 1108	Heat and Mass Transfer	2	0	0	2	2
	NGC 1101**	NCC/ NSS	0	0	1**	1	1**
	NGC 1102**	Physical Education	0	0	1**	1	1**
		TOTAL	13	0	9+2**	30	22+2**

**** Non-gradual course**

II Semester

Sl. No	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1	BTAE 1201	Engineering Mathematics- II	2	0	1	5	3
2	BTAE 1202	Environmental Science and Disaster Management	2	0	1	5	3
3	BTAE 1203	Entrepreneurship Development and Business Management	2	0	1	5	3
4	BTAE 1204	Fluid Mechanics and Open Channel Hydraulics	2	0	1	5	3
5	BTAE 1205	Strength of Materials	1	0	1	4	2
6	BTAE 1206	Workshop Technology and Practices	1	0	2	7	3
7	BTAE 1207	Theory of Machines	2	0	0	2	2
8	BTAE 1208	Web Designing and Internet Applications	1	0	1	4	2
TOTAL			13	0	8	27	21

III Semester

Sl. No	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1	BTAE 2301	Principles of Horticultural Crops and Plant Protection	1	0	1	4	2
2	BTAE 2302	Principles of Agronomy	2	0	1	5	3
3	BTAE 2303	Communication Skills and Personality Development	1	0	1	4	2
4	BTAE 2304	Engineering Mathematics-III	2	0	1	5	3
5	BTAE 2305	Soil Mechanics	1	0	1	4	2
6	BTAE 2306	Design of Structures	1	0	1	4	2
7	BTAE 2307	Machine Design	2	0	0	2	2
8	BTAE 2308	Thermodynamics, Refrigeration and Air Conditioning	2	0	1	5	3
9	BTAE 2309	Electrical Machines and Power Utilization	2	0	1	5	3
TOTAL			14	0	8	38	22

IV Semester

Sl. No	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1	BTAE 2401	Building construction and Cost Estimation	2	0	0	2	2
2	BTAE 2402	Auto CAD Applications	0	0	2	6	2
3	BTAE 2403	Applied Electronics and Instrumentation	2	0	1	5	3
4	BTAE 2404	Tractor and Automotive Engines	2	0	1	5	3
5	BTAE 2405	Engineering Properties of Agricultural Produce	1	0	1	4	2
6	BTAE 2406	Watershed Hydrology	1	0	1	4	2
7	BTAE 2407	Irrigation Engineering	2	0	1	5	3
8	BTAE 2408	Sprinkler and Micro Irrigation Systems	1	0	1	4	2
9	BTAE 2409	Fundamentals of Renewable Energy Sources	2	0	1	5	3
TOTAL			13	0	9	40	22

V Semester

Sl. No	Course Code	Course Title	L	T	P	Contact Hrs /Wk	Credits
1	BTAE 3501	Tractor Systems and Controls	2	0	1	5	3
2	BTAE 3502	Farm Machinery and Equipment-I	2	0	1	5	3
3	BTAE 3503	Agricultural Structures and Environmental Control	2	0	1	5	3
4	BTAE 3504	Post Harvest Engineering of Cereals, Pulses and Oil Seeds	2	0	1	5	3
5	BTAE 3505	Soil and Water Conservation Engineering	2	0	1	5	3
6	BTAE 3506	Watershed Planning and Management	1	0	1	4	2
7	BTAE 3507	Drainage Engineering	1	0	1	4	2
8	BTAE 3508	Renewable Power Sources	2	0	1	5	3
9	NGC 3501**	Skill Development Training-I	0	0	5**	5	5**
Total			14	0	8+5**	38	22+5**

VI Semester

Sl. No	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1	BTAE 3601	Computer Programming and Data Structures	1	0	2	7	3
2	BTAE 3602	Farm Machinery and Equipment-II	2	0	1	5	3
3	BTAE 3603	Post Harvest Engineering of Horticultural Crops	1	0	1	4	2
4	BTAE 3604	Water Harvesting and Soil Conservation Structures	2	0	1	5	3
5	BTAE 3605	Groundwater, Wells and Pumps	2	0	1	5	3
6	BTAE 3606	Tractor and Farm Machinery Operation and Maintenance	0	0	2	6	2
7	BTAE 3607	Dairy and Food Engineering	2	0	1	5	3
8	BTAE 3608	Bio-energy Systems: Design and Applications	2	0	1	5	3
		Total	12	0	10	42	22

VII Semester

Sl. No	Course Code	Course Title	L	T	P	Contact Hrs / Wk	Credits
1	BTAE 4701	Industrial Attachment/ Internship-STUDENT READY (Rural Entrepreneurship Awareness Development Yojana)	0	0	10	30	10
2	BTAE 4702	Experiential Learning On campus - STUDENT READY (Rural Entrepreneurship Awareness Development Yojana)	0	0	10	30	10
3	NGC 4701**	Educational Tour	0	0	2*	3 Wk	2**
4	NGC 4702**	Skill Development Training-II	0	0	5*	5	5**
		TOTAL	0	0	20+7**	65+3 Wk	20+7**

VIII Semester

Sl. No	Course Code	Course Title	L	T	P	Contact Hrs /Wk	Credits
1	BTAE 4801	Project Planning and Report Writing	0	0	10	30	10
2	Elective Courses-Any three courses only (each 2+1)		0	6	3	15	9
	BTAE 4802	Floods and Control Measures	0	2	1	5	3
	BTAE 4803	Wasteland Development	0	2	1	5	3
	BTAE 4804	Information Technology for Land and Water Management	0	2	1	5	3
	BTAE 4805	Remote Sensing and GIS Applications	0	2	1	5	3
	BTAE 4806	Minor Irrigation and Command Area Development	0	2	1	5	3
	BTAE 4807	Precision Farming Techniques for Protected Cultivation	0	2	1	5	3
	BTAE 4808	Water Quality and Management Measures	0	2	1	5	3
	BTAE 4809	Landscape Irrigation Design and Management	0	2	1	5	3
	BTAE 4810	Plastic Applications in Agriculture	0	2	1	5	3
	BTAE 4811	Mechanics of Tillage and Traction	0	2	1	5	3
	BTAE 4812	Farm Machinery Design and Production	0	2	1	5	3
	BTAE 4813	Human Engineering and Safety	0	2	1	5	3
	BTAE 4814	Tractor Design and Testing	0	2	1	5	3
	BTAE 4815	Hydraulic Drives and Controls	0	2	1	5	3
	BTAE 4816	Precision Agriculture and System Management	0	2	1	5	3
	BTAE 4817	Food Quality and Control	0	2	1	5	3
	BTAE 4818	Food Plant Design and Management	0	2	1	5	3
	BTAE 4819	Food Packaging Technology	0	2	1	5	3
	BTAE 4820	Development of Processed Products	0	2	1	5	3
	BTAE 4821	Process Equipment Design	0	2	1	5	3
	BTAE 4822	Photovoltaic Technology and Systems	0	2	1	5	3
	BTAE 4823	Waste and By-products Utilization	0	2	1	5	3
	BTAE 4824	Artificial Intelligence	0	3	0	3	3
	BTAE 4825	Mechatronics	0	2	1	5	3
	BTAE 4826	Management of Canal Irrigation System	0	2	1	5	3
		Total	0	6	13	45	19

SEMESTER WISE CREDIT LOAD

S. No.	SEMESTER	L	T	P	C
1	SEMESTER I	13	0	9+2**	22+2**
2	SEMESTER II	13	0	8	21
3	SEMESTER III	14	0	8	22
4	SEMESTER IV	13	0	9	22
5	SEMESTER V	14	0	8+5**	22+5**
6	SEMESTER VI	12	0	10	22
7	SEMESTER VII	0	0	20+7**	20+7**
8	SEMESTER VIII	6	0	13	19
	TOTAL	85	0	85+14**	170+14**

Total credits with Non-Credit courses (14 credits) = 170+14 =184**