



[6] Education and Research (ED)

[6.1] Number of Courses/Subjects Related to Sustainability Offered

Sr. No	Courses/Modules related to Sustainability	Department	Sr. No	Courses/Modules related to Sustainability	Department
1.	Field Crop Production	Department of Agronomy]	20.	Introduction to Environmental Science	Department of Soil & Environmental Sciences
2.	Principles of Agronomy		21.	Soil, Water and Air Pollution	
3.	Agro-Ecology		22.	Carbon Sequestration and Environment	
4.	Sustainable Agriculture and Organic Farming		23.	Soil Fertility Evaluation	
5.	Fodders and Forages		24.	Nutrient Management in Degraded Soils	
6.	Crop Management under stressful Environments		25.	Plant Growth under Stress Environment	
7.	Arid Zone Agriculture		26.	Municipal Wastes and its Transformations	
8.	Agro-technology of Major Field Crops		27.	Soil Fertility Evaluation	
9.	Management of Field Crop Nutrition		28.	Salt-Affected Soils and Water Quality	
10.	Biological Crop Potential		29.	Soil Fertility and Fertilizer Use	
11.	Environmental Physiology and Crop Improvement		30.	GIS in Soil Survey and Land Use Planning	
12.	Farming System and Farm Record		31.	Soil Microbiology and Environment	
13.	Application of Allelopathy in Agriculture		32.	Environment Pollution and Management	
14.	Field Crop Physiology		33.	Soil, Water and Environment Conservation	
15.	Applied Crop Ecology		34.	Saline Agriculture	
16.	Farming and Cropping Systems		35.	Soil Fertility and Plant Nutrition	
17.	Sustainable Agriculture		36.	Soil Microbiology and Biotechnology	
18.	Climate Change and Agriculture		37.	Advances in Soil Fertility	
19.	Postharvest Technology of Crops		38.	Soil and Environmental Microbiology	
39.	Essentials of Food Science and Technology	Food Sciences & Technology	54.	Apiculture and Sericulture	Entomology
40.	Food Quality Management		55.	Insect Ecology and Behavior	
41.	Poultry and Egg Processing		56.	Insect Pests of Household, Human & Animals	
42.	Principles of Human Nutrition		57.	Sustainable Pest Management of Highly Valued Crops	
43.	Fruit and Vegetable Processing		58.	Insect Biodiversity Management	
44.	Meat Technology		59.	Insect Biodiversity & Evolution	
45.	Technology of Oils and Fats		60.	Stored Products Pests & their Management	
46.	Food Toxicology & Safety		61.	Beneficial Insects	
47.	Community Nutrition & Dietetics		62.	Insecticides and Environmental Pollution	
48.	Food Safety and Quality Management		63.	Range and Forest Entomology	
49.	Advances in Food Microbiology		64.	Post-Harvest Protection of Cereals	
50.	Technology of Edible fat and oil		65.	Stored Products Pests & their Management	
51.	Advances in Processed Meat Technology		66.	Advances in Pest Management Research	
52.	Food Industrial Waste Management		67.	Insecticide Resistance and Management	
53.	Post Harvest Management		68.	Insect Rearing Techniques	
			69.	Insecticides and Public Health	



Sr. No	Courses/Modules related to Sustainability	Department
70.	Peri-Urban Horticulture	Department of Horticulture
71.	Environmental Horticulture	
72.	Medicinal and Aromatic Plants	
73.	Nutrient Management of Horticultural Crops	
74.	Organic Horticulture Production	
75.	Good Agricultural Practices in Horticulture	
76.	Business Management in Horticulture	
77.	Propagation and Nursery Management	
78.	Commercial Flower Production	
79.	Vegetable and Flower Seed production	
80.	Food Safety in Horticultural Crops	
81.	Propagation and Nursery Management.	
82.	Rootstocks for Horticultural Crops	
83.	Horticultural Production under Abiotic Stresses	
84.	Mushroom Biology and Technology	

Sr. No	Courses/Modules related to Sustainability	Department
85.	Introduction to Agro-Based Industry	AGRO-INDUSTRIAL ENGINEERING TECHNOLOGY
86.	Post-Harvest Processes	
87.	Grain Science for Industry	
88.	Feed Milling Technology	
89.	Environmental Management System for Industry	
90.	Entrepreneurship	
91.	Grain Milling Technology	
92.	Technology of Oils and Fats	

Sr. No	Courses/Modules related to Sustainability	Department
93.	Plant diversity	FISHERIES AND AQUACULTURE
94.	Fish Nutrition	
95.	Fish and Fisheries Biology	
96.	Fishery Technology	
97.	Water Pollution	
98.	Integrated Fish Farming	
99.	Inland Fisheries Management	
100.	Fish Post-harvest Technology	

Sr. No	Courses/Modules related to Sustainability	Department
119.	Breeding for Plant Quality Traits	PLANT BREEDING AND GENETICS
120.	Hybrid Seed Production Technology	
121.	Breeding Climate Smart Crops	
122.	Genetics and Breeding of High-value (Minor and Medicinal) Crops	
123.	Genetics and Breeding of Cereal Crops	
124.	Bio-Safety Measures in GM Crops	
125.	Hybrid Seed Production Technology	
126.	Biosafety Measures in Crop Improvement	
127.	Crop Breeding for Biotic and Abiotic Stresses	
128.	Crop Breeding for Quality and Bio-fortification	
129.	Participatory and Integrated Climate Smart Plant Breeding	
130.	Entrepreneurship in Plant Breeding	

Sr. No	Courses/Modules related to Sustainability	Department
131.	Seed Health and Vigour	SEED SCIENCE AND TECHNOLOGY
132.	Biological Potential of Various Crops	
133.	Seed Enhancement	
134.	Seed Production of Transgenic Crops	
135.	Environmental Factors and Seed Crop Production	
136.	Seed Health Management and Quarantine Measures	
137.	Quality Assurance Systems in Seed Industry (For PhD students)	
138.	Post-harvest Physiology	

Sr. No	Courses/Modules related to Sustainability	Department
157.	Resource and Environmental issues of Agrarian Economy	AGRICULTURAL AND RESOURCE ECONOMICS
158.	Agricultural issues and Policies of Pakistan	
159.	Agribusiness Supply Chain Management	
160.	Economics of Climate Change	
161.	Energy Economics	
162.	Environmental Economics	

Sr. No	Courses/Modules related to Sustainability	Department
163.	Agro Value Chain Management	MS AGRIBUSINESS
164.	Environmental Management	
165.	Entrepreneurship in Agriculture	
166.	Advanced Food Marketing	
167.	Strategic Agribusiness Management	
168.	Agro Value Chain Management	
169.	Livestock and Dairy Business Management	
170.	Poultry Business Management	
171.	Environmental Management	

Sr. No	Courses/Modules related to Sustainability	Department
101.	Soil Science and Crop Production	BBA AGRIBUSINESS
102.	Orchard Planning and Management	
103.	Farm Mechanization	
104.	Energy Resources and Utilization	
105.	Agribusiness Supply Chain Management	
106.	Agribusiness Entrepreneurship	
107.	Poultry Business Management	
108.	Water Management	
109.	Human Resource Management in Agriculture	
110.	Harvest Technology	

Sr. No	Courses/Modules related to Sustainability	Department
111.	Rural Poultry Production	POULTRY SCIENCE
112.	Poultry Farm Management	
113.	Poultry Feeding Practices	
114.	Broiler Production and Management	
115.	Poultry Farm Management & Bio security	
116.	Layer Production and Management	
117.	Poultry Farm Practices-I	
118.	Poultry Products Technology	

Sr. No	Courses/Modules related to Sustainability	Department
139.	Abiotic Diseases of Plants	Plant Pathology
140.	Biological Control of Plant Pathogens	
141.	Plant Disease Management	
142.	Seed and Post-Harvest Pathology	
143.	Plant Resistance to Diseases	
144.	Integrated Plant Disease Management	

Sr. No	Courses/Modules related to Sustainability	Department
145.	Modern Concepts in Biotechnology	BIOTECHNOLOGY
146.	Fundamentals of Seed Molecular Biology	
147.	Biotechnology: Principles and Applications	
148.	Bioremediation and Biodegradation	

Sr. No	Courses/Modules related to Sustainability	Department
149.	Rural Sociology and Development	Elective Courses
150.	Introduction to Veterinary Preventive Medicine	
151.	Agro-Forestry, Range and Wildlife Management	
152.	Metabolism of Primary Nutrients	
153.	Biodiversity	
154.	Mineral and Vitamin Metabolism	
155.	General Microbiology and Immunology	
156.	Principles of Poultry Nutrition	

Sr. No	Courses/Modules related to Sustainability	Department
172.	Biodiversity	Department of Veterinary Sciences
173.	Poultry Meat Inspection	
174.	Veterinary Epidemiology and public health	
175.	Poultry Feed Industry	

176.	Plant diversity
177.	Ecology
178.	Water pollution
179.	Aquatic macrophytes and Management
180.	Aquatic toxicology
181.	Fish Post harvest Technology

182.	Fodders and Forages
183.	Fish and Fisheries of Pakistan
184.	Insect Pests of Household, Human and Animals
185.	Agro-Forestry, Range and Wildlife Management



186	Remote Sensing and GIS Applications in Animal Sciences		
187	Utilization and Conservation of Animal Genetic Resources		
188	Marine and Fresh Water Microbiology		
189	Basic Biotechnology		
190	Environmental Microbiology		
191	Industrial Microbiology		
192	Biorisk Management (Biosafety and Biosecurity)		
193	Food and Dairy Microbiology		
194	Animal Biodiversity		
195	Plant Diversity		
196	Aquatic Biology		
197	Biodiversity		
198	Environmental Biology		
199	Aquatic toxicology		
200	Zoogeography & Paleontology		
201	Epidemiology and Public Health		
Courses/Subjects Related to Sustainability (MNSUAM)			

Description:

Number of courses/modules related to environment and sustainability offered in 2020 = **190+ courses**