

Chairman

Prof. Dr. Taj Ali Khan Ph.D. (UK)

Professors

Prof. Dr. Daulat Khan Ph.D. (USA)

Assistant Professors

Dr. Muhammad Ibrahim	Ph.D. (USA)
Dr. Zia-ul-Haq	Ph.D. (UK)
Dr. M. Shahzad Khan	D.Engg. (Bangkok)
Engr. Mahmood Alam Khan	M.Sc. (Pak)
Engr. Abdul Malik	M.Sc. (Pak)
Engr. Khurram Sheraz	M.Sc. (Pak)

Lecturers

Engr. Muhammad Ajmal	M.Sc. (Pak)
Engr. M. Hamed Khan	M.Sc. (Pak)
Engr. Sajjad Ahmad	M.Sc. (Pak)

Lab. Engineer

Engr. Nazia Afreen B.Sc. (Pak)

Department of Agricultural Engineering

Introduction

The Department of Agricultural Engineering was established in 1961 in the then College of Engineering, University of Peshawar. This Department is the pioneer in initiating Agricultural Engineering education in the country and thus has the pride of producing the first batch of Agricultural Engineers in 1965 in Pakistan. Since then, hundreds of graduates of this department are rendering their valuable services in government departments, national and international organizations throughout the world. Our graduates have been instrumental in the development of Pakistan's economy.

Agricultural Engineering is the branch of Engineering that utilizes the engineering principles, materials and forces of nature for the benefit of agriculture and resultantly in the best interest of humanity. Agricultural Engineers are trained to creatively apply engineering and scientific principles in the design and development of new products, systems and processes for the conversion of raw materials and power sources into food, feed, and fiber while protecting the environment and workers health and safety. Agricultural Engineers offer their valuable services to design irrigation systems such as surface and high efficiency irrigation systems to utilize the precious waters to enhance agricultural productivity; design drainage systems to control the menaces of water-logging and salinity; design and develop strategies for flood management; develop soil and water conservation techniques for irrigated and rainfed areas; apply hydrology principles to predict and mitigate floods, landslides and drought risks; design farm structures for poultry, dairy, and storages for agricultural products; design dams and ponds for irrigation water supply; modify agricultural features by landscaping techniques; perform agricultural product processing, and environmental impact assessment; design new and improved farm machinery for agricultural mechanization; utilize different techniques of renewable energies to generate power for agricultural needs; apply geographic information system and remote sensing techniques to agricultural research; interpret research output, and implement relevant schemes. In general, they combine physical sciences with biological sciences and solve engineering problems related to agriculture.

Academic Programs

- B.Sc. Agricultural Engineering
- M.Sc. Agricultural Engineering
- Ph.D. Agricultural Engineering

Laboratories

The Department has the following well-equipped laboratories for practical work of students and research by the faculty members.

- Soil and Water Engineering Laboratory
- Irrigation Engineering Laboratory
- Drainage Engineering Laboratory
- Postgraduate Computer Laboratory
- Undergraduate Computer Laboratory
- GIS and RS Laboratory
- I.C. Engine Demonstration Center
- Farm Machinery Workshop

Practical Training

Apart from the academic activities, students are required to complete 800 hours of practical training as a requirement for the award of B.Sc. Agricultural Engineering Degree. This practical training is arranged during the summer vacations in the relevant fields of Agricultural Engineering.

Field Visits

The Department maintains close liaison with Government Departments and private industries related to Agricultural Engineering. Field visits are arranged as per requirement of a particular course. Industrial tours are also arranged in each semester to enable them the students to acquire practical knowledge and skills.

Survey Camp

Each year practical training in the field of surveying and leveling is arranged for the students of 7th Semester for a period of three weeks which is mandatory for the award of degree. The students are trained in techniques like leveling, plane tabling, triangulation, contouring, road and irrigation channel surveys.

Research

In addition to offering academic programs, the faculty is actively engaged in applied research at national and international levels and also providing consultancy services in the areas related to Agricultural Engineering.



Scheme of Studies

Semester 1		Contact hours		Credit hours
No.	Course	Lecture	Lab.	Total
BSI-101	Islamic Studies	2	0	2
BSI-111	Linear Algebra	3	0	3
BSI-162	Engineering Mechanics	3	3	4
AE-105	Basic Agriculture	3	0	3
AE-104L	Fundamental of Computer & Applications	0	3	1
ME-105	Engineering Drawing & Graphics	2	3	3
ME-106L	Engineering Workshops	0	3	1
Total Contact Hours		13	12	
Total Credit Hours		13	4	17

Semester 2		Contact hours		Credit hours
No.	Course	Lecture	Lab.	Total
BSI-110	Pakistan Studies	2	0	2
BSI-122	Calculus	3	0	3
BSI-142	English Composition & Comprehension	3	0	3
AE-101	Soil Science	2	3	3
AE-102	Engineering Materials	2	3	3
AE-106	Mechanics of Materials	2	3	3
Total Contact Hours		14	9	
Total Credit Hours		14	3	17

Semester 3		Contact hours		Credit hours
No.	Course	Lecture	Lab.	Total
BSI-231	Differential Equations	3	0	3
CE-205	Surveying-I	3	3	4
AE-203	Soil & Water Conservation Engineering	3	3	4
AE-204	Fluid Mechanics	3	3	4
AE-209L	Computer Aided Design	0	3	1
AE-201L	Computer Programming	0	3	1
Total Contact Hours		12	15	
Total Credit Hours		12	5	17

Semester 4		Contact hours		Credit hours
No.	Course	Lecture	Lab.	Total
BSI-120	Professional Ethics	2	0	2
BSI-242	Numerical Analysis	3	0	3
AE-202	Machine Design	3	0	3
CE-207	Surveying-II	3	3	4
CE-209	Geo-Technical Engineering-I	3	3	4
AE-208	Quantity Survey and Cost Estimation	2	0	2
Total Contact Hours		16	6	
Total Credit Hours		16	2	18

Semester 5		Contact hours		Credit hours
No.	Course	Lecture	Lab.	Total
	Elective-I	2	0	2
CE-401	Environmental Engineering-I	3	3	4
BSI-351	Statistics & Probability	3	0	3
AE-206	Agricultural Processing Engineering	3	0	3
AE-205	Engineering Economics & Management	2	0	2
AE-303	Alternate Energy Resources	2	3	3
Total Contact Hours		15	6	
Total Credit Hours		15	2	17

Semester 6		Contact hours		Credit hours
No.	Course	Lecture	Lab.	Total
	Elective-II	3	3	4
BSI-143	Communication & Presentation Skills	3	0	3
AE-305	Farm Irrigation Systems	3	0	3
AE-306	Farm Machinery & Earth Moving Equipment	3	3	4
CE-408	Environmental Engineering-II	3	0	3
Total Contact Hours		15	6	
Total Credit Hours		15	2	17

Semester 7		Contact hours		Credit hours
No.	Course	Lecture	Lab.	Total
	Elective-III	3	3	4
AE-401	Farm Power	3	3	4
AE-304L	GIS and Remote Sensing	0	3	1
CE-402	Irrigation Engineering	3	0	3
AE-403	Landscape Engineering	2	0	2
AE-411	Project	0	9	3
Total Contact Hours		11	18	
Total Credit Hours		11	6	17

Semester 8		Contact hours		Credit hours
No.	Course	Lecture	Lab.	Total
	Elective-IV	3	0	3
AE-402	Open Channel Hydraulics	3	0	3
AE-407	Farm Structures	3	0	3
AE-408	Water Management Engineering	3	3	4
AE-411	Project	0	9	3
Total Contact Hours		12	12	
Total Credit Hours		12	4	16

Total Credit Hours for B.Sc Agriculture Engineering = 136