



Scheme of Studies

BS Environmental Science

Semester - I (First Year)					
S.No.	Course code	Course Title	Type	Cr. Hrs.	Pre-Reqs.
01	ES-101	Introduction to Environmental Science	Theory-Lab	2+1	0
02	NS-101	Applied Calculus	Theory	3+0	0
03	NS-102	Chemistry	Theory-Lab	2+1	0
04	CS-101	Introduction to Computing	Theory-Lab	2+1	0
05	HI-101	Islamic Studies	Theory	2+0	0
06	HS-102	Functional English	Theory	3+0	0
Sub Total of Credit Hours				17	

Semester - II (First Year)					
S.No.	Course code	Course Title	Type	Cr. Hrs.	Pre-Reqs.
01	ES-102	Fundamentals of Ecology	Theory	3+0	0
02	ES-103	Introduction to Earth Sciences	Theory-Lab	2+1	ES-101
03	NS-103	Introduction to Biology	Theory-Lab	2+1	0
04	NS-104	Differential Equations	Theory	3+0	NS-101
05	HS-103	Technical Report Writing & Presentation Skills	Theory	3+0	HS-102
06	HS-104	Pakistan Study	Theory	2+0	0
Sub Total of Credit Hours				17	



Semester - III (Second Year)					
S.No.	Course code	Course Title	Type	Cr. Hrs.	Pre-Reqs.
01	ES-204	Environmental Chemistry	Theory-Lab	2+1	NS-102
02	ES-205	Environmental Pollution	Theory	3+0	NS-102/ES-101
03	ES-206	Hydrology	Theory-Lab	2+1	0
04	NS-205	Numerical Analysis	Theory	3+0	NS-101/ES-101
05	HS-205	Communication Skills	Theory	3+0	HS-102/HS-103
06	HS-206	Phycology	Theory	2+0	0
Sub Total of Credit Hours				17	

Semester - IV (Second Year)					
S.No.	Course code	Course Title	Type	Cr. Hrs.	Pre-Reqs.
01	ES-207	Air and Noise Pollution	Theory	3+0	ES-101/ES-205
02	ES-208	Environmental Sampling and Analytical Techniques	Theory	2+1	ES-101
03	ES-209	Biodiversity and Conservation	Theory	3+0	ES-101/NS-103
04	ES-210	Water Quality Management	Theory	2+1	0
05	ES-211	Climatology	Theory-Lab	3+0	ES-206
06	MS-201	Introduction to Economics	Theory	2+0	0
Sub Total of Credit Hours				17	



Semester - V (Third Year)

S.No.	Course code	Course Title	Type	Cr. Hrs.	Pre-Reqs.
01	ES-312	Energy and Environment	Theory	3+0	ES-101
02	ES-313	Environmental Toxicology	Theory-Lab	2+1	ES-101/ES-104
03	ES-314	Environmental Management System	Theory-Lab	2+1	ES-102
04	ES-315	Environmental Pollution Monitoring	Theory-Lab	2+1	ES-303/ES-104
05	ES-316	Solid Waste Management	Theory	3+0	ES-101/ES-314
06	EL XXX	Elective -I	Theory	2/3+0/1	0
Sub Total of Credit Hours				18	

Semester - VI (Third Year)

S.No.	Course code	Course Title	Type	Cr. Hrs.	Pre-Reqs.
01	ES-317	Research Methodology in Environmental Sciences	Theory	3+0	0
02	ES-318	Environmental Impact Assessment	Theory	3+0	ES-101/208
03	ES-319	Environmental Economics	Theory	3+0	0
04	NS-306	Probability & Statistics	Theory	3+0	NS-101/NS-104
05	EL XXX	Elective -II	Theory	2/3+0/1	0
Sub Total of Credit Hours				15	



Semester - VII (Fourth Year)

S.No.	Course code	Course Title	Type	Cr. Hrs.	Pre-Reqs.
01	ES-420	Climate Change	Theory	3+0	0
02	ES-421	Remote Sensing and GIS	Theory-Lab	2+1	0
03	ES-422	Disaster Risk Management	Theory	3+0	ES-101/ES-314
04	ES-423	Pollution Control Technologies	Theory	3+0	ES-101/ES-207
05	EL XXX	Elective -III	Theory	3/2+0/1	0
Sub Total of Credit Hours				15	

Semester - VIII (Fourth Year)

S.No.	Course code	Course Title	Type	Cr. Hrs.	Pre-Reqs.
01	ES-424	Occupational Safety Health and Environment	Theory-Lab	2+1	0
02	ES-425	Environmental Governance	Theory-Lab	2+1	ES-102/ES-207
03	ES-426	Environmental Impact Assessment	Theory	3+0	ES-309
04	EL XXX	Elective -IV	Theory-Lab	3/2+0/1	0
05	ES-427	Final Year Project	Lab	0+3	0
Sub Total of Credit Hours				15	

Total Credit hours = 131 Hrs

(Minimum 124 Hrs and Maximum 140 Hrs is advised by policy provided by HEC, Pakistan to implement uniform system).



Elective courses shall be offered from the following list of approved courses subject to the availability of course teacher

Elective -I

S.No.	Course Code	Course Title	Credit Hours
1	ES-XXX	Environmental Biochemistry	2+1
2	ES-XXX	National Resource Management	3+0
3	MS-XXX	Project Management	3+0

Elective -II

S.No.	Course Code	Course Title	Credit Hours
1	ES-XXX	Environmental Physics	2+1
2	MS-XXX	Water Resource Management	2+1
3	ES-XXX	Environmental Profile of Pakistan	3+0

Elective -III

S.No.	Course Code	Course Title	Credit Hours
1	ES-XXX	Public Health & Environment	3+0
2	ES-XXX	Ecotourism	3+0
3	ES-XXX	Coastal Environmental Management	3+0

Elective -IV

S.No.	Course Code	Course Title	Credit Hours
1	ES-XXX	Urban Environmental Management	3+0
2	ES-XXX	Agro-Ecology	3+0
3	ES-XXX	Pollution Movement in Soil	3+0