SCHEME OF STUDIES OF B.SC. ENVIRONMENTAL ENGINEERING

2018-2024			2024-2028		
Semester 1st			**Semester 1st**		
Course No	**Title of Courses**	**Credit hours**	**Course No**	**Title of Courses**	**Credit hours**
Major			**Major**		
SEE-301	Engineering Drawing Graphics	2(1-1)	SEE-301	Engineering Drawing Graphics	2(1-1)
SEE-303	Introduction to Environmental Engineering	3(3-0)	SEE-303	Introduction to Environmental Engineering	3(3-0)
Minor			**Minor**		
Math-301	Linear Algebra and Calculus	3(3-0)	SSH-303	IDEOLOGY AND CONSTITUTION OF PAKISTAN	2(2 - 0)
PY-301	Applied Physics	3(2-1)	CS-305	APPLICATIONS OF INFORMATION AND COMMUNICATION TECHNOLOGIES	3(2 - 1)
CS-309	Computer Fundamentals and Programming	3(2-1)	PY-307	FUNDAMENTALS OF NATURAL SCIENCES	3(2 - 1)
AEE-317	Communication and Presentation Skill	3(2-1)	SOC-311	INTRODUCTION TO SOCIOLOGY	2(2-0)
			ENG-313	FUNCTIONAL ENGLISH	3(3-0)
			CHEM-308	Introduction to General Chemistry (Deficiency course for ICS students only)	3(2-1) NCC
TOTAL credit hours 17 (13-4)			**TOTAL credit hours 18 (15-3)**		
Semester 2nd			**Semester 2nd**		
Course No	**Title of Courses**	**Credit hours**	**Course No**	**Title of Courses**	**Credit hours**
Major			**Major**		
SEE-304	Computer Aided Design	2(1-1)	SEE-304	Computer Aided Design	2(1-1)
SEE-310	Engineering Mechanics	4(3-1)	SEE-312	Surveying and Leveling	3(2-1)
ID-312	Fluid Mechanics	4(3-1)	ID-322	Fluid Mechanics	3(2 - 1)
Minor			**Minor**		
ENG-302	English Composition and Comprehension	3(3-0)	EDU-306	CIVICS AND COMMUNITY ENGAGEMENT	2(2 - 0)
STAT-312	Statistics and Probability	3(2-1)	FA-310	INTRODUCTION TO ARTS AND HUMANITIES	2(2-0)
MATH-306	Differential Equations, Power Series, Laplace Transform	3(3-0)	ENG-314	EXPOSITORY WRITING	3(3-0)
Total Credit Hours 19(15-4)			**Total Credit Hours 15(12-3)**		

Semester 3rd			Semester 3rd		
Course No	**Title of Courses**	**Credit hours**	**Course No**	**Title of Courses**	**Credit hours**
Major			**Major**		
FMP-401	Engineering Thermodynamics	3(2-1)	SEE-401	Engineering Mechanics	3(2-1)
SEE-403	Surveying	2(1-1)	CHEM-403	ENVIRONMENTAL CHEMISTRY	3(2-1)
ID-413	Engineering Hydrology and Climate Change	3(2-1)	ID-413	ENGINEERING HYDROLOGY AND CLIMATE CHANGE	3(2-1)
Minor			FMP-409	APPLIED THERMODYNAMICS	3(2-1)
CHEM-403	Environmental Chemistry	3(2-1)	**Minor**		
IS-401 or SSH-402	Islamic Studies or Ethics (for foreign students)	3(3-0)	IS-401/SSH-306	ISLAMIC STUDIES/ ETHICS	2(2- 0)
RS-413	Environment and Anthropology	2(2-0)	MATH-408	QUANTITATIVE REASONING (I)	3(3-0)
Total Credit hours 16(12-4)			**Total Credit hours 17(13-4)**		
Semester 4th			Semester 4th		
Course No	**Title of Courses**	**Credit hours**	**Course No**	**Title of Courses**	**Credit hours**
Major			**Major**		
SEE-402	Mechanics of Materials	3(2-1)	SEE-402	Mechanics of Materials	3(2-1)
SEE-408	Leveling	2(1-1)	SEE-414	Water Treatment	3(2-1)
SEE-414	**Water Treatment**	**3(2-1)**	FMP-404	Artificial Intelligence (AI)	2(1–1)
ID-414	Engineering Numerical Analysis	3(2-1)	**Minor**		
Minor			BMS-402	ENTREPRENEURSHIP	2(2-0)
SSH-302	Pakistan Studies	2(2-0)	STAT-408	QUANTITATIVE REASONING (II)	3(3-0)
ZOOL-303	Ecosystem Management	2(2-0)	MATH-406	DIFFERENTIAL EQUATIONS	3(3-0)
			ZOOL-303	ECOSYSTEM MANAGEMENT	2(2-0)
Total Credit hours 15(11-4)			**Total Credit hours 18(15-3)**		
Semester 5th			Semester 5th		
Course No	**Title of Courses**	**Credit hours**	**Course No**	**Title of Courses**	**Credit hours**
Major			**Major**		
SEE-511	Wastewater Engineering	3(2-1)	SEE-511	Wastewater Engineering	3(2-1)
SEE-519	**Environmental Laws and Policies**	**2(2-0)**	SEE-519	Environmental Laws and Policies	2(2-0)
SEE-507	**Environmental Management System in Industry**	**3(2-1)**	SEE-517	Environmental Management System in Industry	2(1-1)

Course No	Title of Courses	Credit hours	Course No	Title of Courses	Credit hours
ID-511	Remote Sensing and GIS	3(2-1)	ID-525	Numerical Analysis	2(2-0)
Minor			ID-511	Remote Sensing and GIS	3(2-1)
Micro-505	Environmental Microbiological Techniques	3(2-1)	**Minor**		
	Elective – I	3	STAT-312	Statistics and Probability	3(2-1)
			Micro-505	Environmental Microbiological Techniques	3(2-1)
Total Credit hours 17			**Total Credit hours 18(14-4)**		
Semester 6th			**Semester 6th**		
Course No	**Title of Courses**	**Credit hours**	**Course No**	**Title of Courses**	**Credit hours**
Major			**Major**		
SEE-504	**Water Supply and Sewerage**	**3(2-1)**	SEE-504	Water Supply and Sewerage	3(2-1)
SEE-506	**Meteorology and Climate Change**	**3(2-1)**	SEE-506	Meteorology and Climate Change	3(2-1)
SEE-510	Environmental Health and Safety	3(3-0)	SEE-516	Solid Waste Engineering and Management	3(2-1)
SEE-516	**Solid Waste Engineering and Management**	**3(2-1)**	SEE-528	Occupational Health and Safety	1(1-0)
Minor			ID-528	Project Management	2(2-0)
SES-308	Environmental Microbiology	3(2-1)		MDE Elective-I	3
	Elective – II	3	**Minor**		
			ARE-512	ECONOMICS FOR ENGINEERS	2(2-0)
Total credit hours 17			**Total credit hours 17**		
Semester 7th			**Semester 7th**		
Course No	**Title of Courses**	**Credit hours**	**Course No**	**Title of Courses**	**Credit hours**
Major			**Major**		
SEE-609	Environmental Impact Assessment	3(3-0)	SEE-609	Environmental Impact Assessment	3(3-0)
SEE-611	Renewable Energy and Environment	3(3-0)	SEE-611	Renewable Energy and Environment	3(3-0)
SEE-613	**Environmental Engineering Materials**	**3(2-1)**	SEE-613	Environmental Engineering Materials	3(2-1)
SEE-615	**Biological Environmental Processes**	**3(2-1)**	SEE-615	Biological Environmental Processes	3(2-1)
SEE-619	Senior Project Design – I	3(0-3)	SEE-619	FINAL YEAR DESIGN PROJECT-I	3(0-3)
				ENGG ELECTIVE-I	2
			IS-402/SSH-403	Quran Translation (ترجمتہ القرآن) / Interfaith Harmony	1(1-0)

Course No	Title of Courses	Credit hours	Course No	Title of Courses	Credit hours
				(Deficiency/ Compulsory Non-Credit course)	
Total Credit Hours 15(10-5)			**Total Credit Hours 17**		
Semester 8th			**Semester 8th**		
Course No	**Title of Courses**	**Credit hours**	**Course No**	**Title of Courses**	**Credit hours**
Major			**Major**		
SEE-610	Cleaner Production Technology	3(3-0)	SEE-604	Cleaner Production Technology	2(2-0)
SEE-614	**Industrial and Hazardous Waste Management**	**3(2-1)**	SEE-614	Industrial And Hazardous Waste Management	3(2-1)
SEE-620	Senior Project Design – II	3(0-3)	SEE-622	Air and Noise Pollution Control	3(2-1)
SEE-622	Air and Noise Pollution Control	3(2-1)	SEE-620	FINAL YEAR DESIGN PROJECT –II	3(0-3)
Minor				MDE ELECTIVE-II	2
AE-602	Engineering Economics and Management	3(3-0)		ENGG. ELECTIVE-II	3
			IS-403	Roohaniat (روحانیت) *(Deficiency/ Compulsory Non-Credit course)*	1(1-0)
Total Credit Hours 15(10-5)			**Total Credit Hours 16**		
TOTAL 132			**TOTAL 136**		