Curriculum of BSc. Electrical Engineering Technology (Intake Session Fall-2023 & onwards)

Semester-wise scheme of studies for the Bachelor of Electrical Engineering Technology program spanning 04 years, spread over 08 semesters, and encompassing 130 credit hours is presented below:

SEMESTER-I				
Course Codes	**Course Title**	**Knowledge Area/Domain**	**Credit Hrs. (Th+Lab)**	**Contact Hrs. (Th+Lab)**
ELH-111/ ELH-112	Islamic Studies / Social Ethics	Art & Humanities-I	3+0	3+0
ELE-111	Communication Skills	Expository Writing-I	3+0	3+0
ELQ-111	Calculus & Analytical Geometry	Quantitative Reasoning-I	2+0	2+0
ELN-112	Applied Physics	Natural Sciences-I	2+1	2+3
ELC-111	Information and Communication Technology	Computing-I	1+1	1+3
ELT-111	Electrical Workshop	Electrical Engineering Technology Foundation-I	0+2	0+6
	Teaching of Holy Quran Translation-I / Ethics		0+0	0+0
	Subtotal		**11+4 =15**	**11+12 =23**
SEMESTER-II				
ELH-121	Pakistan Studies	Art & Humanities –II	3+0	3+0
ELQ-121	Differential Equations	Quantitative Reasoning-II	2+0	2+0
ELN-122	Natural Science Elective-I	Natural Sciences-II	2+1	2+3
ELM-121	Management Science Elective-I	Management Sciences-I	3+0	3+0
ELC-121	Computer Programming	Computing-II	1+1	1+3
ELT-121	Linear Circuit Analysis	Electrical Engineering Technology Foundation-II	1+1	1+3

ELT-122	Environment, Health and Safety	Electrical Engineering Technology Foundation-III	1+0	1+0
	Subtotal		**13+3 =16**	**13+9 =22**
SEMESTER-III				
Course Codes	**Course Title**	**Knowledge Area**	**Credit Hrs. (Th+Lab)**	**Contact Hrs. (Th+Lab)**
ELH-211	Professional Ethics	Social Science-I	3+0	3+0
ELE-211	Technical Report Writing	Expository Writing-II	3+0	3+0
ELQ-211	Linear Algebra	Quantitative Reasoning-III	2+0	2+0
ELT-211	Technical Drawing	Electrical Engineering Technology Foundation-IV	0+1	0+3
ELT-212	Electronic Devices and Circuits	Electrical Engineering Technology Foundation-V	2+1	2+3
ELT-213	Logic Circuits and Applications	Electrical Engineering Technology Foundation-VI	1+2	1+6
ELT-214	Electrical Network Analysis	Electrical Engineering Technology Foundation-VII	1+1	1+3
	Teaching of Holy Quran Translation-II / Ethics		0+0	0+0
	Subtotal		**12+5 =17**	**12+15 =27**
SEMESTER-IV				
ELT-221	Instrumentation and Measurements	Electrical Engineering Technology Breadth Core-I	2+1	2+3
ELT-222	Electrical Machines	Electrical Engineering Technology Breadth Core-II	2+1	2+3
ELT-223	Signals and Systems	Electrical Engineering Technology Foundation-VI	1+1	1+3
ELT-224	Micro-Controller Systems	Electrical Engineering Technology Foundation-VII	1+1	1+3
ELT-225	Breadth Elective-I	Electrical Engineering Technology Breadth Elective-I	2+1	2+3

ELI-221	IDTE-I	Inter Disciplinary Technology Elective-I	1+1	1+3
ELH-221	Basic Chinese Language	Art & Humanities-III	0+1	0+3
	Subtotal		**9+7 =16**	**9+21 =30**
SEMESTER-V				
Course Codes	**Course Title**	**Knowledge Area**	**Credit Hrs. (Th+Lab)**	**Contact Hrs. (Th+Lab)**
ELT-311	Control Technology	Electrical Engineering Technology Depth Core-I	2+1	2+3
ELT-312	Communication Systems	Electrical Engineering Technology Depth Core-II	2+1	2+3
ELT-313	Breadth Elective-II	Electrical Engineering Technology Breadth Elective-II	1+1	1+3
ELT-314	Depth Elective-I	Electrical Engineering Technology Depth Elective-I	2+1	2+3
ELT-315	Depth Elective-II	Electrical Engineering Technology Depth Elective-II	2+1	2+3
ELT-316	Project Part-I	Electrical Engineering Technology Domain Project	0+3	0+9
	Teaching of Holy Quran Translation-III / Ethics		0+0	0+0
	Subtotal		**9+8 =17**	**9+24 =33**
SEMESTER-VI				
ELM-321	Management Elective-II	Management Sciences-II	3+0	3+0
ELT-321	Depth Elective-III	Electrical Engineering Technology Depth Elective-III	2+1	2+3
ELT-322	Depth Elective-IV	Electrical Engineering Technology Depth Elective-IV	2+1	2+3
ELT-323	Depth Elective-V	Electrical Engineering Technology Depth Elective-V	2+1	2+3
ELI-321	IDTE-II	Inter Disciplinary Technology Elective-II	1+1	1+3

ELT-324	Project Part-II	Electrical Engineering Technology Domain Project	0+3	0+9
	Subtotal		**10+7 =17**	**10+21 =31**
SEMESTER-VII				
Course Codes	**Course Title**	**Knowledge Area**	**Credit Hrs.** (Th+Lab)	**Contact Hrs.** (Th+Lab)
ELT-411	**Supervised Industrial Training (Optional)**	**Electrical Engineering Technology Domain Industrial Training**	**16**	**40 (per Week)**
ELH-411 ELM-411	Social Sciences / Management Sciences Elective	Social Science-II / Management Sciences-III	2+0	2+0
ELT-412	Depth Elective-VI	Electrical Engineering Technology Depth Elective-VI	2+1	2+3
ELT-413	Depth Elective-VII	Electrical Engineering Technology Depth Elective-VII	2+1	2+3
ELT-414	Depth Elective-VIII	Electrical Engineering Technology Depth Elective-VIII	2+1	2+3
ELT-415	Depth Elective-IX	Electrical Engineering Technology Depth Elective-IX	2+1	2+3
ELC-411	Computing Elective-I	Computing-III	1+1	1+3
	Subtotal		**11+5=16**	**11+15 =26**
SEMESTER-VIII				
ELT-421	**Supervised Industrial Training (Compulsory)**	Electrical Engineering Technology Domain Industrial Training	**16**	**40 (per Week)**
	Subtotal		**0+16= 16**	**0+40= 40**

Total Credit Hours & Contact Hours in Four Years (When SIT conducted in both 7th and 8th Semester)	**64+66 = 130**	**64+198=262**
Theory vs Practical with respect to Contact Hours	Theory Practical	64 (24.42%) 198 (75.57%)
Total Credit Hours & Contact Hours in Four Years (When optional courses conducted instead of SIT in 7th semester**)**	**75+55 = 130**	**75+165 =240**
Theory vs Practical with respect to Contact Hours	Theory Practical	75 (31.25%) 165 (68.75%)

List of Elective Courses

Social Sciences

- Professional Ethics
- Sociology for Technologist
- Critical Thinking
- Organizational Behavior
- Professional Psychology

Management Sciences

- Economics
- Project Management
- Entrepreneurship
- Leadership and Personal Grooming

Natural Sciences

- Multivariable Calculus
- Discrete Mathematics
- Numerical Analysis

Breadth Electives

- Power Generation Technology
- Electrical Power Transmission

Inter Disciplinary Technology Electives

- Basic Mechanical Technology
- Energy and Environment
- Automobile Vehicle Technology

Depth Electives

- Switchgear and Protective Devices Technology
- Electrical Power Distribution and Utilization
- Power Electronics
- Industrial Drives and PLC
- High Voltage Technology
- Renewable and Alternative Energy Technologies
- Machine Repair and Maintenance
- Electrification Technology
- Electrical Appliances Repair
- Smart Grid Technology
- Electrical Safety
- Fiber Optics Technology
- Sensor Networks
- Embedded Systems
- Integrated Circuits Technology
- Mobile Phone Assembly and Repair
- Telecommunication Systems Technology
- Wireless Technology
- Robotics Technology