Electrical Engineering Department
Punjab Engineering College (Deemed to be University) Chandigarh

Course structure/ Curriculum for B.Tech. (Electrical) 3rd to 8th Semester for the batch 2020-2021 and onwards.

1. Department Core Courses

Course Code	Course Name	Semester	L	T	P	Credits
EL1001	Networks and Systems	3rd semester	3	0	2	4
EL1002	Measurement and Instrumentation		3	0	2	4
EL1003	Electrical Machines-I		3	0	2	4
EL1004	Electrical Power Systems-I	4th semester	3	0	2	4
EL1005	Analog and Digital Electronics		3	0	2	4
EL1006	Electrical Machines-II		3	0	2	4
EL1007	Control Systems	5th semester	3	0	2	4
EL1008	Electrical Power Systems-II		3	0	2	4
EL1009	Power Electronics		3	0	2	4

2. Department Elective Courses

Course Code	Course Name	L	T	P	Credits
EL2001	Signals and Systems	3	1	0	4
EL2002	Optimization Techniques in Engineering	3	1	0	4
EL2003	Microprocessors and Microcontrollers	3	0	2	4
EL2004	Computer Aided Design of Electrical Machines	3	0	2	4
EL2005	High Voltage Engineering	3	0	2	4
EL2006	Renewable Energy Technologies	3	0	2	4
EL2007	Utilization of Electrical Energy	3	1	0	4
EL2008	Power System Operation and Control	3	1	0	4
EL2009	Neural Networks and Fuzzy Systems	3	1	0	4
EL2010	Digital Signal Processing	3	1	0	4
EL2011	Medical Instrumentation	3	0	2	4
EL2012	PLC & SCADA	4	0	0	4

EL2013	Analog and Digital Communication	3	1	0	4
EL2014	Intelligent Renewable Energy Systems	4	0	0	4
EL2015	Grid Integration of Renewable Systems	3	1	0	4
EL2016	Restructured and Deregulated Power Systems	3	1	0	4
EL2017	Smart Grid Technologies	4	0	0	4
EL2018	Energy Management and Energy Audit	3	0	2	4
EL2019	Advanced Control Systems	3	1	0	4
EL2020	Electrical Instrumentation and Process Control	4	0	0	4
EL2021	Electric Drives	3	0	2	4
EL2022	Power Conditioning	3	1	0	4
EL2023	Advanced Power Electronics	3	0	2	4
EL2024	Electric Vehicles	3	0	2	4
EL2025	Optimal Control Systems	3	1	0	4
EL2026	Distributed Generation	4	0	0	4
EL2027	Power Electronics in Renewable Energy System	3	0	2	4
EL2028	Digital Applications in Industrial Power Engineering	4	0	0	4
EL2029	Developing and Advanced Technologies in Power Sector	4	0	0	4
EL2030	Power System Stability and Dynamics	4	0	0	4
EL2031	Advanced Power System Analysis	3	1	0	4
EL2032	Digital Power System Protection	3	0	2	4
EL2033	HVDC and FACTS	3	1	0	4
EL2034	Design and Realisation of Power Converters	3	0	2	4
EL2035	Modelling and Control of Power Electronic Converters	3	1	0	4
EL2036	Advanced Electric Drives	3	0	2	4
EL2037	Digital Control Systems	3	0	2	4
EL2038	Robust Control Systems	3	0	2	4
EL2039	Non-Linear Control Systems	3	1	0	4

3. Honours Courses (Any Four)

Course Code	Course Name	L	T	P	Credits
EL3001	Power System Operation and Control	3	1	0	4
EL3002	Smart Grid Technologies	4	0	0	4

EL3003	Power Conditioning	3	1	0	4
EL3004	Distributed Generation	4	0	0	4
EL3005	Digital Applications in Industrial Power Engineering	4	0	0	4
EL3006	Developing and Advanced Technologies in Power Sector	4	0	0	4
EL3007	Power System Stability and Dynamics	4	0	0	4
EL3008	Advanced Power System Analysis	3	1	0	4
EL3009	Digital Power System Protection	3	0	2	4
EL3010	HVDC and FACTS	3	1	0	4
EL3011	Electric Drives	3	0	2	4
EL3012	Advanced Power Electronics	3	0	2	4
EL3013	Power Electronics in Renewable Energy System	3	0	2	4
EL3014	Design and Realisation of Power Converters	3	0	2	4
EL3015	Modelling and Control of Power Electronic Converters	3	1	0	4
EL3016	Advanced Electric Drives	3	0	2	4
EL3017	Advanced Control Systems	3	1	0	4
EL3018	Optimal Control Systems	3	1	0	4
EL3019	Digital Control Systems	3	0	2	4
EL3020	Robust Control Systems	3	0	2	4
EL3021	Non-Linear Control Systems	3	1	0	4

4. Major Specialization Courses

Power Systems (Any Four)					
Course Code	**Course Name**	**L**	**T**	**P**	**Credits**
EL4001	Power System Operation and Control	3	1	0	4
EL4002	Smart Grid Technologies	4	0	0	4
EL4003	Power Conditioning	3	1	0	4
EL4004	Distributed Generation	4	0	0	4
EL4005	Digital Applications in Industrial Power Engineering	4	0	0	4
EL4006	Developing and Advanced Technologies in Power Sector	4	0	0	4
EL4007	Power System Stability and Dynamics	4	0	0	4
EL4008	Advanced Power System Analysis	3	1	0	4
EL4009	Digital Power System Protection	3	0	2	4

EL4010	HVDC and FACTS	3	1	0	4
Power Electronics & Electric Drives (Any Four)					
EL4011	Electric Drives	3	0	2	4
EL4012	Power Conditioning	3	1	0	4
EL4013	Advanced Power Electronics	3	0	2	4
EL4014	Power Electronics in Renewable Energy System	3	0	2	4
EL4015	HVDC and FACTS	3	1	0	4
EL4016	Design and Realisation of Power Converters	3	0	2	4
EL4017	Modelling and Control of Power Electronic Converters	3	1	0	4
EL4018	Advanced Electric Drives	3	0	2	4
Control Systems (Any Four)					
EL4019	Advanced Control Systems	3	1	0	4
EL4020	Optimal Control Systems	3	1	0	4
EL4021	Digital Control Systems	3	0	2	4
EL4022	Robust Control Systems	3	0	2	4
EL4023	Non-Linear Control Systems	3	1	0	4

5. Minor Specialization Courses

Course Code	Course Name	L	T	P	Credits
EL5001	Electrical Machines	3	0	2	4
EL5002	Electrical Power System	3	1	0	4
EL5003	Power Electronics and its Applications	3	0	2	4
EL5004	Electrical Measurement and Instrumentation	3	0	2	4
EL5005	Linear Control Techniques	3	0	2	4
EL5006	Utilization of Electrical Energy	3	1	0	4

Courses with Course Codes EL5001 and EL5002 are compulsory, and any two from the rest courses.

6. Open Elective Courses

Course Code	Course Name	L	T	P	Credits
EL6001	Electrical Machines	3	0	2	4
EL6002	Electrical Power Systems	3	1	0	4
EL6003	Power Electronics and its Applications	3	0	2	4

EL6004	Electrical Measurement and Instrumentation	3	0	2	4
EL6005	Linear Control Techniques	3	0	2	4
EL6006	Utilization of Electrical Energy	3	1	0	4
EL6007	Signals and Systems	3	1	0	4
EL6008	Optimization Techniques in Engineering	3	1	0	4
EL6009	Neural Networks & Fuzzy Systems	3	1	0	4
EL6010	Renewable Energy Technologies	3	0	2	4
EL6011	Microprocessors and Microcontrollers	3	0	2	4
EL6012	Electric Vehicles	3	0	2	4
EL6013	PLC & SCADA	4	0	0	4
EL6014	Advanced Mechatronics	3	0	2	4
EL6015	Optimal Control Systems	3	1	0	4
EL6016	Advanced Control Systems	3	1	0	4
EL6017	Medical Instrumentation	3	0	2	4
EL6018	Energy Storage Systems	3	1	0	4

Courses with Course Codes from EL6001-EL6005 are not for Electrical Engineering Students.