



SHARIF UNIVERSITY OF TECHNOLOGY



DEPARTMENT OF ELECTRICAL ENGINEERING

Catalogue
2021

Cluster Courses

ROWS	COURSE NUMBER	DIGITAL SYSTEMS	UNITS
1	25771	MICROPROCESSOR SYS DSGN	3
2	25776	ASIC/FPGA SYST DSGN	3
3	25262	DIGITAL ELECTRONIC	3
4	25778	EMBEDDED SYSTEMS	3
5	25755	DATA STRUCTURE AND ALGORITHM	3

ROWS	COURSE NUMBER	ANALOG AND HIGH FREQUENCY ELECTRONICS	UNITS
1	25762	EM FIELD & WAVES	3
2	25773	FILTERS & NETWORK SYNTHESIS	3
3	25271	RF INTEGRATED CIRCUITS	3
4	25229	MICROWAVE IC	3
5	25274	INTEGRATED FILTER DESIGN	3

ROWS	COURSE NUMBER	ELECTRONIC DEVICES	UNITS
1	25798	SOLID STATE DEVICES	3
2	25269	ADVANCED SOLID STATE DEVICES	3
3	25231	SEMICONDUCTOR TECH	3
4	25234	ADVANCED SOLID STATE PHYSICS	3
5	25762	EM FIELD & WAVES	3

ROWS	COURSE NUMBER	BIODEVICES	UNITS
1	25616	BIOMED ENG FUND	3
2	25736	BIOMED ELEC CKT APPL	3
3	25726	BIOSENSORS	3
4		BIOPHOTONICS	3
5		BRAIN COMPUTER INTERFACE (BCI)	3

ROWS	COURSE NUMBER	POWER ELECTRONICS	UNITS
1	25799	FUND PWR ELECT	3
2	25363	POWER ELECTRONICS 1	3
3	25785	ELEC ENERG GEN SYS	3
4	25332	DESIGN OF ELEMENTS PWR ELEC	3
5	25205	IND ELECTRONICS LAB	3

ROWS	COURSE NUMBER	ELECTRIC CARS AND DRIVES	UNITS
1	25799	INDUSTRIAL ELECTRONICS	3
2	25781	ELECTRIC ENERGY CONVERSION 2	3
3	25757	MECHATRONICS	3
4	25325 25365	ELEC MACHINES DSGN / CONTROLLED AC DRV	3
5	25712 25205	ELEC ENERG CNVERSN LAB2 / INDUSTRIAL ELECTRONICS	1

ROWS	COURSE NUMBER	ECONOMICS OF ELECTRICITY SYSTEMS AND MARKETS	UNITS
1	44714 44719	FOUNDATIONS OF ECONOMICS / MICROECONOMICS	3
2	25756	CONVEX OPTIMIZATION 1	3
3	25615	ENGINEERING ECONOMICS	3
4	25398	POWER SYSTEM PLANNING	3
5	25337	POWER SYSTEM OPERATION AND POWER MARKET / POWER SYSTEMS RESTRUCTURING	3

ROWS	COURSE NUMBER	RENEWABLE ENERGY SYSTEMS	UNITS
1		TECHNOLOGY AND APPLICATION OF RENEWABLE POWER PLANTS	3
2		ENERGY ECONOMY	3
3	25799	INDUSTRIAL ELECTRONICS	3
4	28602	ENERGY AND ENVIRONMENT	3
5		WASTE ENERGY TECHNOLOGY	3

ROWS	COURSE NUMBER	POWER SYSTEM PROTECTION AND CYBER SECURITY	UNITS
1	25786	POWER SYSTEMS PROTECTION	3
2	25765	DIGITAL SIGNAL PROCESSING	3
3	25167	DATA NETWORKS	3
4		DIGITAL PROTECTION OF POWER SYSTEMS	3
5		AUTOMATION IN POWER SYSTEMS	3

ROWS	COURSE NUMBER	BIOMOLECULAR SCIENCES AND TECHNOLOGIES	UNITS
1		MOLECULAR BIOLOGY	3
2		SYSTEMIC BIOLOGY	3
3		GENETICS AND EVOLUTION	3
4		COMPUTATIONAL GENOMICS	3

ROWS	COURSE NUMBER	BIOELECTRONICS	UNITS
1	25726	BIOSENSORS	3
2	25746	BIOMED ELEC CKT APPL	3
3	25798	SOLID STATE DEVICES	3
4	25123	FUNDAMENTALS OF OPTICS AND PHOTONICS	3
5	25772	PRINC SOLID ST DEVICE	3

ROWS	COURSE NUMBER	OPTICAL AND QUANTUM COMMUNICATIONS	UNITS
1	25123	FUNDAMENTALS OF OPTICS AND PHOTONICS	3
2	25875	FIBER OPTICS COMM	3
3	25748	QUANTUM ELECTRONICS	3
4	25169	STATISTICAL OPTICAL COMM	3
5		QUANTUM COMM SIGNALS	3

ROWS	COURSE NUMBER	COMMUNICATION SYSTEMS	UNITS
1	25763	DIGITAL COMM	3
2	25775	INT TO WIRELESS COMM	3
3	25128	INF & CODING THEORY	3
4	25181	RANDOM PROCESS	3
5	25129	CODING THEORY	3

ROWS	COURSE NUMBER	SIGNAL PROCESSING AND RADAR	UNITS
1	25765	DIGITAL SIGNAL PROCESSING	3
2	25553	COMPUTER VISION	3
3	25164	SIGNAL PROCESSORS	3
4	25197	RADAR SYSTEMS	3
5		SPECIAL TOPICS IN ELECTRICAL ENGINEERING (ADVANCED DSP)	3

ROWS	COURSE NUMBER	NETWORK CLUSTERING AND SECURITY	UNITS
1		COMPUTER NETWORKS / DATA COMMUNICATION NETWORKS	3
2	25874	FUND CRYPTO NET SECURITY	3
3		ADVANCED DATA COMM NETWORK	3
4	25824	GAME THEORY	3
5		FUNDAMENTALS OF BLOCKCHAIN TECHNOLOGY AND CURRENCY CODES	3

ROWS	COURSE NUMBER	MATHEMATICAL SCIENCES	UNITS
1	22325	MATHEMATICAL ANALYSIS 1	3
2	22655	NUMERICAL ANALYSIS 1	3
3	22657	NUMERICAL ANALYSIS 2	3
4	22825	DISCRETE MATHEMATICS	3
5	22873	THEORY OF LANGUAGES AND AUTOMATA	3

ROWS	COURSE NUMBER	PHYSICS	UNITS
1	24014	PHYSICS 4	3
2	24113	ANALYTICAL MECHANICS 1	3
3	24167	THERMODYNAMICS AND STATISTICAL MECHANICS 1	3
4	24313	QUANTUM MECHANICS	3
5	24617	SOLID STATE PHYSICS 1	3

ROWS	COURSE NUMBER	ROBOTICS	UNITS
1	25738	INTRODUCTION TO ROBOTIC SYSTEMS	3
2	25553	COMPUTER VISION	3
3	25089	NUMERICAL OPTIMIZATION METHODS	3
4	25792	MODERN CONTROL	3
5	25443	NEURAL NETWORKS	3

ROWS	COURSE NUMBER	HIGH VOLTAGES AND CURRENTS	UNITS
1	25783	DIELECTRICS & HV	3
2		POWER SUBSTATION STRUCTURE AND EQUIPMENT	3
3	25186	NUMERICAL METHODS IN ELECTROMAGNETISM	3
4	27017	SEL OF ENG MAT	3
5	25713	DIELECTRICS & HV LAB	3

ROWS	COURSE NUMBER	INDUSTRIAL ELECTRICAL AND ELECTRONIC SYSTEMS	UNITS
1	25799	INDUSTRIAL ELECTRONICS	3
2	25791	INDUSTRIAL CONTROL	3
3	25789	AUTOMO ELEC & ELCTRNC SYS	3
4	25784	ELECTRICAL INSTALLATION	3
5	25205	INDUSTRIAL ELECTRONICS LAB	1