Kolhapur Institute of Technology's
College of Engineering (Autonomous), Kolhapur

Structure

For

S.Y to Final Year B.Tech

Electrical Engineering
(Under Graduate Program)

With effect from

Academic Year: 2022-23

Draft Structure and Curriculum for S.Y. B.Tech in Electrical Engineering
Teaching and Evaluation Scheme
YEAR / SEMESTER - S.Y.B-Tech, Sem-III

Course Code	Course	Curriculum Component	Teaching Scheme				Evaluation Scheme			
			L	T	P	Credits	Component	Max Marks	Min Marks	
UELC0301	Electrical Machines	PC	04	-	-	04	ISE-I	10		
							MSE	30	20	40
							ISE-II	10		
							ESE	50	20	
UELC0302	Analog & Digital Electronics	PC	04	-	-	04	ISE-I	10		
							MSE	30	20	40
							ISE-II	10		
							ESE	50	20	
UELC0303	Electrical Circuit Analysis	ES	03	01	-	04	ISE-I	10		
							MSE	30	20	40
							ISE-II	10		
							ESE	50	20	
UELC0304	Electrical Power Generation Systems	PC	03	-	-	03	ISE-I	10		
							MSE	30	20	40
							ISE-II	10		
							ESE	50	20	
UELC0305	Engineering Mathematics-III	BS	03	01	-	04	ISE-I	10		
							MSE	30	20	40
							ISE-II	10		
							ESE	50	20	
UELA0361	Constitution Of India. Audit Course-I	HS	02	-	-	-	ESE	100	40	40
UELC0331	DC Machines Lab	PC	-	-	02	01	ISE	25	10	
							ESE (POE)	50	20	
UELC0332	Analog& Digital Electronics Lab	PC	-	-	02	01	ISE	25	10	
							ESE (POE)	50	20	
UELC0333	Electrical Circuit Analysis Lab	ES	-	-	02	01	ISE	50	20	
							ESE (OE)	50	20	
Total			18	02	06	22	-	750	300	

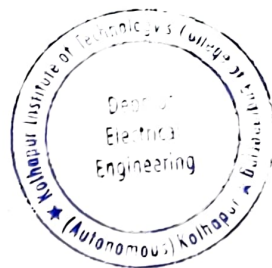**TOTAL CONTACT HOURS = 26, TOTAL CREDITS = 22**

Mrs. S. A. Sarkar
BoS-Member Secretary

Dr. V. S. Bugade
BoS - Chairman

Mr. Ajit S Patil
Dean Academics

Kolhapur Institute of Technology's
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Draft Structure and Curriculum for S.Y. B.Tech in Electrical Engineering
Teaching and Evaluation Scheme
YEAR / SEMESTER – S.Y.B -Tech, Sem - IV

Course Code	Course	Curriculum Component	Teaching Scheme				Evaluation Scheme			
			L	T	P	Credits	Component	Max Marks	Min Marks	
UELC0401	Power Electronics	PC	03	-	-	03	ISE-I	10	20	40
							MSE	30		
							ISE-II	10		
							ESE	50	20	
UELC0402	Feedback Control System	PC	04	-	-	04	ISE-I	10	20	40
							MSE	30		
							ISE-II	10		
							ESE	50	20	
UELC0403	Electrical Power Transmission &Distribution	PC	03	-	-	03	ISE-I	10	20	40
							MSE	30		
							ISE-II	10		
							ESE	50	20	
UELC0404	Electromagnetic Fields	ES	03	01	-	04	ISE-I	10	20	40
							MSE	30		
							ISE-II	10		
							ESE	50	20	
UELC0405	Signals & Systems	PC	03	01	-	04	ISE-I	10	20	40
							MSE	30		
							ISE-II	10		
							ESE	50	20	
UELA0461	Environmental studies Audit Course-II	HS	02	-	-	-	ESE	100	40	40
UELC0431	Power Electronics Lab	PC	-	-	02	01	ISE	25	10	
							ESE (POE)	50	20	
UELC0432	Feedback Control System Lab	PC	-	-	02	01	ISE	25	10	
							ESE (OE)	50	20	
UELC0433	AC Machines Lab	PC	-	-	02	01	ISE	25	10	
							ESE (POE)	50	20	
UELC0434	Min Project-I	PRJ	-	-	02	01	ISE	25	10	
Total			18	02	08	22	-	750	300	

TOTAL CONTACT HOURS =28, TOTAL CREDITS = 22

Mrs. S. A. Sarkar
BoS-Member Secretary

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BoS - Chairman

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Note:

- **ESE :**End Semester Examination,
- **MSE:** Mid Semester Examination,
- **ISE:** In Semester Evaluation.
- **HS:** Humanities, Social Science and Management,
- **BS:** Basic Sciences including Mathematics
- **ES :**Engineering Science, **PC :**Program Core, **PE:** Program Elective
- **OE:** Open elective, **PRJ**: Project work, Seminar, Internship in industry etc.
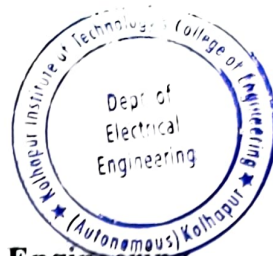
List of Audit Courses – Semester III and IV

Year	Audit Course	Course Code	Audit Course
Second Year B.Tech-I	Audit Course-I	UELA0361	Constitution Of India.
Second Year B.Tech-II	Audit Course-II	UELA0461	Environmental Studies.

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Draft Structure and Curriculum for T.Y. B.Tech. in Electrical Engineering
Teaching and Evaluation Scheme
YEAR/SEMESTER-T.Y. B.Tech, Sem-V

Course Code	Course	Curriculum Component	Teaching Scheme				Evaluation Scheme			
			L	T	P	Credits	Component	Max Marks	Min Marks	
UELC0501	Power System Protection	PC	04	--	--	04	ISE-I	10	20	40
							MSE	30		
							ISE-II	10		
							ESE	50	20	
UELC0502	Electric Vehicles Technologies	PC	04	--	--	04	ISE-I	10	20	40
							MSE	30		
							ISE-II	10		
							ESE	50	20	
UELC0503	Microcontrollers	PC	04	--	--	04	ISE-I	10	20	40
							MSE	30		
							ISE-II	10		
							ESE	50	20	
UELE054X	Program Elective-I	PE-I	03	--	--	03	ISE-I	10	20	40
							MSE	30		
							ISE-II	10		
							ESE	50	20	
UELO058*	Open Elective-I	OE-I	03	--	--	03	ISE-I	10	20	40
							MSE	30		
							ISE-II	10		
							ESE	50	20	
UELA0561	Audit Course-III	HS	02	--	--	--	ESE	100		40
UELC0531	Power System Protection Lab	PC	--	--	02	01	ISE	25	10	
							ESE (POE)	50	20	
UELC0532	Electric Vehicle Lab	PC	--	--	02	01	ISE	25	10	
							ESE (OE)	25	10	
UELC0533	Microcontroller Lab	PC	--	--	02	01	ISE	25	10	
							ESE (POE)	50	20	
UELC0534	Mini Project-II	PRJ	--	--	02	01	ISE	50	20	
Total			20	--	08	22	-	750	300	

TOTAL CONTACT HOURS = 28 , TOTAL CREDITS = 22

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Draft Structure and Curriculum for T.Y. B. Tech. in Electrical Engineering
Teaching and Evaluation Scheme YEAR / SEMESTER-
T.Y. B.Tech, Sem. - VI

Course Code	Course	Curriculum Component	Teaching Scheme				Evaluation Scheme			
			L	T	P	Credits	Component	Max Marks	Min Marks	
UELC0601	Industrial Drives and Control	PC	04	--	--	04	ISE-I	10		40
							MSE	30	20	
							ISE-II	10		
							ESE	50	20	
UELC0602	Power System Analysis	PC	04	--	--	04	ISE-I	10		40
							MSE	30	20	
							ISE-II	10		
							ESE	50	20	
UELC0603	IOT Electrical Engineering	PC	04	--	--	04	ISE-I	10	20	40
							MSE	30		
							ISE-II	10		
							ESE	50	20	
UELE064X	Program Elective-II	PE-II	03	--	--	03	ISE-I	10		40
							MSE	30	20	
							ISE-II	10		
							ESE	50	20	
UELO068*	Open Elective-II	OE-II	03	--	--	03	ISE-I	10		40
							MSE	30	20	
							ISE-II	10		
							ESE	50	20	
UELA0661	Audit Course-IV	ES	02	--	--	--	ESE	100	40	
UELC0631	Industrial Drives and Control Lab	PC	--	--	02	01	ISE	25	10	
							ESE (POE)	50	20	
UELC0632	Power System Analysis Lab	PC	--	--	02	01	ISE	25	10	
							ESE (POE)	50	20	
UELC0633	IOT Electrical Engineering Lab	PC	--	--	02	01	ISE	25	10	
							ESE (OE)	25	10	
UELC0634	Industry 4.0 Lab	PC	--	--	02	01	ISE	50	20	
Total			20	--	08	22	--	750	300	
TOTAL CONTACT HOURS = 28, TOTAL CREDITS = 22										

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- ***:** Course code for Open Elective
- **X :**Course code for Program Elective

List of Program Electives–Semester V and VI

Year	Program Elective	Course Code	Course Name
Third Year B.Tech -Sem-V	Program Elective-I	UELE0541	Utilization of Electrical Energy
		UELE0542	Electrical Auditing and Management.
Third Year B.Tech -Sem-VI	Program Elective-II	UELE0641	Power Quality and Harmonics (PQH)
		UELE0642	Flexible AC transmission systems(FACTS)

List of Open Electives offered to other programs- Semester VI

Year	Open Elective	Course Code	Course Name
Third Year B.Tech-Sem-V	Open Elective-I	UELE0581	Solar Photovoltaic System Design
		UELE0582	Renewable Energy Sources
Third Year B.Tech-Sem-VI	Open Elective-II	UELO0681	Electric Vehicles Technologies
		UELO0682	Electric Motors & its Control

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List of Audit Courses - Semester V and VI

Year	Audit Course	Course Code	Course Name
Third Year B.Tech-Sem-V	Audit Course-III	UELA0511	NPTEL / Course Era /MOOCS
Third Year B.Tech-Sem-VI	Audit Course-IV	UELA0611	NPTEL / Course Era /MOOCS

Note: BoS Chairman has to decide the Audit Course -III in accordance with Curriculum Component Humanities Science(as mentioned in structure)& Audit Course-IV in accordance with Curriculum Component Engineering Science (as mentioned in structure)before the commencement of Semester over NPTEL / Course Era /MOOCS platform, examination of Audit Course will be conducted at Institute level.

Mrs. S. A. Sarkar
BoS-Member Secretary

Dr. V. S. Bugade
BoS - Chairman

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Draft Structure and Curriculum for Final Year B.Tech. in Electrical Engineering
Teaching and Evaluation Scheme
YEAR / SEMESTER – FINAL YEAR B.Tech, Sem. - VII

Course Code	Course	Curriculum Component	Teaching Scheme				Evaluation Scheme			
			L	T	P	Credits	Component	Max Marks	Min Marks	
UELC0701	Industrial Automation	PC	03	--	--	03	ISE-I	10	20	40
							MSE	30		
							ISE-II	10		
							ESE	50	20	
UELC0702	Electrical Machine Design	PC	04	--	--	04	ISE-I	10	20	40
							MSE	30		
							ISE-II	10		
							ESE	50	20	
UELC0703	Smart Grid	PC	03	--	--	03	ISE-I	10	20	40
							MSE	30		
							ISE-II	10		
							ESE	50	20	
UELC0704	Advanced Control Systems	PC	03	--	--	03	ISE-I	10	20	40
							MSE	30		
							ISE-II	10		
							ESE	50	20	
UELE074X	Program Elective-III	PE-III	03	--	--	03	ISE-I	10	20	40
							MSE	30		
							ISE-II	10		
							ESE	50	20	
UELC0731	Industrial Automation Lab	PC	--	--	02	01	ISE	25	10	
							ESE (POE)	50	20	
UELC0732	Electrical Machine Design Lab	PC	--	--	02	01	ISE	25	10	
							ESE (OE)	50	20	
UELC0733	Project-I	PRJ	--	--	04	02	ISE-I	50	20	
							ISE-II	50	20	
Total			**16**	**--**	**08**	**20**	-	**750**	**300**	
TOTAL CONTACT HOURS = 24 , TOTAL CREDITS = 20										

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Draft Structure and Curriculum for Final Year B.Tech. in Electrical Engineering

Teaching and Evaluation Scheme

YEAR / SEMESTER - FINALYEAR. B.Tech. Sem.- VIII

Course Code	Course	Curriculum Component	Teaching Scheme				Evaluation Scheme			
			L	T	P	Credits	Component	Max Marks	Min Marks	
UELC084X	Program Elective-IV	PE-IV	03	--	--	03	ISE-I	10	20	40
							MSE	30		
							ISE-II	10		
							ESE	50	20	
UELC085X	Program Elective-V	PE-V	03	--	--	03	ISE-I	10	20	40
							MSE	30		
							ISE-II	10		
							ESE	50	20	
UELC0831	Project-II	PRJ	-	-	08	04	ISE-I	75	60	100
							ISE-II	75		
							ESE (OE)	100	40	
UELC0832	Internship	PRJ	-	-	04	02	ISE-I	50	20	40
							ISE-II	50	20	
			06	-	12	12		500	200	
TOTAL CONTACT HOURS = 18, TOTAL CREDITS =12										

Note:
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- **PE:** Program Elective
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Kolhapur Institute of Technology's
College of Engineering (Autonomous), Kolhapur

List of Professional Electives- Semester VII and VIII

Year	Program Elective	Course Code	Course Name
Final Year B. Tech- Sem - VIII	Program Elective-III	UELC0741	Special Electrical Machines
		UELC0742	Electric Vehicle Design
Final Year B. Tech- Sem - VIII	Program Elective-IV	UELC0841	Power System Operation and Control
		UELC0842	Battery Management System
	Program Elective-V	UELC0851	Reactive Power Control in Electric Power Systems
		UELC0852	ANN With Applications to Power Systems

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