

**Kolhapur Institute of Technology's
COLLEGE OF ENGINEERING (AUTONOMOUS)
Gokul Shirgaon, Kolhapur**



KOLHAPUR INSTITUTE
OF TECHNOLOGY'S
**COLLEGE OF
ENGINEERING**
(AUTONOMOUS),
KOLHAPUR

Curriculum Structure

(As Per NEP guidelines)

For

B. Tech E&TC Engineering

Academic Year 2024-2025

Under Graduate Programme



Y. M. Patil
24/07/24

Dr. Y. M. Patil
Head of Department

A. R. Thorvat
24/07/24

Dr. A. R. Thorvat
Dean Academics

B. Tech. in Electronics & Telecommunication Engg.

w.e.f. A.Y: 2024-25 (S.Y.B. Tech)

SEMESTER-III

Sr. No.	Category	Course Code	Course Name	L	T	P	Hrs. / Week	Credits	Evaluation Scheme			
									Component	Marks		
										Max	Min. for passing	
1	PC	UETPC0301	Analog Circuits	3	1	-	4	4	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
2	PC	UETPC0302	Differential Equations and Integral Transforms	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
3	PC	UETPC0303	Digital System Design	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
4	PC	UETPC0304	Electronics Instrumentation & Measurement	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
5	VE	UETVE0305	Environmental Studies	2	-	-	2	2	ISE	50	20	20
6	HSSM	UETEM0306	Engineering Management	2	-	-	2	2	ESE	50	20	20
7	PC	UETPC0331	Analog Circuits Laboratory	-	-	2	2	1	ISE	25	10	
									ESE(POE)	50	20	
8	PC	UETPC0332	Digital System Design Laboratory	-	-	2	2	1	ISE	25	10	
									ESE(POE)	25	10	
9	PC	UETPC0333	Electronics Instrumentation & Measurement- Laboratory	-	-	2	2	1	ISE	25	10	
10	OJT	UETIL0371	Mini Project-I	-	-	2	2	1	ISE	50	20	
11	MM	UETMM03**	Multidisciplinary Minor-I	2	-	-	2	2	ESE	100	40	
			Total:				27	23	Total Marks: 800 Total Credit: 23			

SEMESTER-IV

Sr. No.	Category	Course Code	Course Name	L	T	P	Hrs. / Week	Credits	Evaluation Scheme			
									Component	Marks		
										Max	Min for Passing	
1	PC	UETPC0401	Network Analysis	2	-	-	2	2	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
2	PC	UETPC0402	Signals and Systems	2	-	-	2	2	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
3	PC	UETPC0403	Analog & Digital Communication	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
4	PC	UETPC0404	Linear Integrated Circuits	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
5	PC	UETPC0405	Electromagnetic Engineering	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
6	VE	UETVE0406	Constitution of India	2	-	-	2	2	ISE	50	20	
7	PC	UETPC0431	Analog & Digital Communication Laboratory	-	-	-	2	1	ISE	25	10	
									ESE(POE)	25	10	
8	PC	UETPC0432	Linear Integrated Circuits Laboratory	-	-	2	2	1	ISE	25	10	
									ESE(POE)	25	10	
9	OJT	UETIL0471	Mini Project-II	-	-	2	2	1	ISE	25	10	
10	VS	UETVS0433	Electronics Computer Aided Design (E-CAD)	-	-	2	2	1	ISE	25	10	
11	CC	UETCC0434	Co-Curricular Activities-II	-	-	2	2	1	ISE	50	20	
12	MM	UETMM04**	Multidisciplinary Minor-II	3	-	-	3	3	ESE	100	40	
Total:							28	23	Total Marks: 850		Total Credit: 23	

*: Program Elective, ~: Open Elective

B. Tech. Electronics & Telecommunication Engg.

AY: 2025-26 (TY B. Tech)

SEMESTER-V

Sr. No.	Category	Course Code	Course Name	L	T	P	Hrs. / Week	Credits	Evaluation Scheme			
									Component	Marks		
										Max	Min for passing	
1	PC	UETPC0501	Microcontrollers	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
2	PC	UETPC0502	Control Systems	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
3	PC	UETPC0503	Digital Signal Processing	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
4	PEC	UETPE05*	Program Elective-I	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
5	OE	UETOE05~	Open Elective-I	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
6	AE	UETAE0531	Business Communication and Value Science	-	-	2	2	1	ISE	50	20	
7	PC	UETPC0532	Microcontrollers Laboratory	-	-	2	2	1	ISE	25	10	
									ESE(POE)	25	10	
8	PC	UETPC0533	Digital Signal Processing Laboratory	-	-	2	2	1	ISE	25	10	
									ESE(OE)	25	10	
9	VS	UETVS0534	Model Based Design Laboratory	-	-	2	2	1	ISE	25	10	
10	CEP	UETIL0571	Community Engineering Project	-	-	2	2	1	ISE	25	10	
11	MM	UETMM05**	Multidisciplinary Minor-III	3	-	-	3	3	ESE	100	40	
Total:							28	23	Total Marks: 800 Total Credit: 23			

*: Program Elective, ~: Open Elective

SEMESTER-VI

Sr. No.	Category	Course Code	Course Name	L	T	P	Hrs. / Week	Credits	Evaluation Scheme			
									Component	Marks		
										Max	Min for Passing	
1	PC	UETPC0601	Embedded System	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
2	PC	UETPC0602	VLSI Design	2	-	-	2	2	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
3	PC	UETPC0603	Computer Networks	2	-	-	2	2	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
4	PEC	UETPE06*	Program Elective-II	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
5	OE	UETOE06~	Open Elective-II	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
6	HSSM	UETEM0604	Advanced Data Structure	2	-	-	2	2	ESE	50	20	
7	PC	UETPC0631	Embedded System Laboratory	-	-	2	2	1	ISE	25	10	
									ESE(POE)	25	10	
8	PC	UETPC0632	VLSI Design Laboratory	-	-	2	2	1	ISE	25	10	
									ESE(OE)	25	10	
9	PC	UETPC0633	Computer Networks Laboratory	-	-	2	2	1	ISE	25	10	
10	FP	UETIL0671	Industrial Automation	-	-	2	2	1	ISE	25	10	
11	CC	UETCC0634	Co-Curricular Activities-III	-	-	2	2	1	ISE	50	20	
12	MM	UETMM06**	Multidisciplinary Minor-IV	3	-	-	3	3	ESE	100	40	
			Total:				28	23	Total Marks: 850 Total Credit: 23			

*: Program Elective, ~: Open Elective

B. Tech. Electronics & Telecommunication Engg.

AY: 2026-27 (Final Year B. Tech)

SEMESTER-VII

Sr. No.	Category	Course Code	Course Name	L	T	P	Hrs./Week	Credits	Evaluation Scheme		
									Component	Marks	
										Max	Min for Passing
1	PC	UETPC0701	Mobile Communication Network	3	-	-	3	3	ISE1	10	40
									MSE	30	
									ISE2	10	
									ESE	50	
2	PC	UETPC0702	Power Electronics	3	-	-	3	3	ISE1	10	40
									MSE	30	
									ISE2	10	
									ESE	50	
3	PC	UETPC0703	RF & Microwave Engineering	3	-	-	3	3	ISE1	10	40
									MSE	30	
									ISE2	10	
									ESE	50	
4	PEC	UETPE07*	Program Elective-III	3	-	-	3	3	ISE1	10	40
									MSE	30	
									ISE2	10	
									ESE	50	
5	OE	UETOE07~	Open Elective-III	2	-	-	2	2	ISE1	10	40
									MSE	30	
									ISE2	10	
									ESE	50	
6	PC	UETPC0731	RF & Microwave Engineering Laboratory	-	-	2	2	1	ISE	25	10
									ESE(OE)	25	10
7	PC	UETPC0732	Power Electronics Laboratory	-	-	2	2	1	ISE	25	10
									ESE(POE)	25	10
8	RM	UETIL0771	Project-I	-	-	8	8	4	ISE	50	20
									ESE(OE)	50	20
9	MM	UETMM07**	Multidisciplinary Minor-V	3	-	-	3	3	ESE	100	40
Total:							29	23	Total Marks: 800 Total Credit: 23		

*: Program Elective, ~: Open Elective

SEMESTER-VIII

Sr. No.	Category	Course Code	Course Name	L	T	P	Hrs. / Week	Credits	Evaluation Scheme			
									Component	Marks		
										Max	Min for Passing	
1	PEC	UETPE08*	Program Elective-IV	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
2	PEC	UETPE08*	Program Elective-V	3	-	-	3	3	ISE1	10	20	40
									MSE	30		
									ISE2	10		
									ESE	50		
3	OJT	UETIL0871	Internship	-	-	12	12	6	ISE-I	75	30	
									ISE-II	75	30	
4	RM	UETIL0872	Project -II	-	-	8	8	4	ISE	50	20	
									ESE(OE)	50	20	
5	CC	UETCC0831	Co-Curricular Activities-IV	-	-	2	2	1	ISE	50	20	
Total:							28	17	Total Marks: 500 Total Credit: 17			

*: Program Elective, ~: Open Elective

Program Electives:*PROGRAM ELECTIVE- I**

Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UETPE0511	Antenna and Wave Propagation	3	0	0	3	3
2	UETPE0512	Probability Theory and Stochastic Processes	3	0	0	3	3
3	UETPE0513	Electronic System Design	3	0	0	3	3
4	UETPE0514	Computer Architecture & Organization	3	0	0	3	3

PROGRAM ELECTIVE - II

Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UETPE0611	Operating System	3	0	0	3	3
2	UETPE0612	Automotive Electronics	3	0	0	3	3
3	UETPE0613	Biomedical Instrumentation	3	0	0	3	3
4	UETPE0614	Embedded Linux	3	0	0	3	3

PROGRAM ELECTIVE - III

Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UETPE0711	Information Theory & coding	3	0	0	3	3
2	UETPE0712	Mechatronics	3	0	0	3	3
3	UETPE0713	Multimedia Engineering	3	0	0	3	3
4	UETPE0714	Optical Fiber communication	3	0	0	3	3
5	UETPE0715	Digital TV and Multimedia	3	0	0	3	3

PROGRAM ELECTIVE- IV

Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UETPE0811	Digital Image Processing	3	0	0	3	3
2	UETPE0812	Cyber security	3	0	0	3	3
3	UETPE0813	CMOS VLSI	3	0	0	3	3
4	UETPE0814	Real Time Systems	3	0	0	3	3

PROGRAM ELECTIVE- V

Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UETPE0815	System on Chip	3	0	0	3	3
2	UETPE0817	Cryptography & Network Security	3	0	0	3	3
3	UETPE0818	Machine Learning	3	0	0	3	3

~ Open Elective Courses

OPEN ELECTIVE - I

Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UILOE0522	Global Marketing Management	3	-	-	3	3
2	UILOE0531	Ethics in Engg practices	3	-	-	3	3
Total:						6	6

OPEN ELECTIVE- II

Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UILOE0622	Engineering Econometrics	3	-	-	3	3
Total:						3	3

OPEN ELECTIVE- III

Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UILOE0724	Industrial Instrumentation	3	-	-	3	3
Total:						3	3

A. Bucket-I: Multidisciplinary Minor in Cyber Security

****Multi disc. minor**

Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UETMM0341	Information Theory for Cyber Security	2	-	-	2	2
2	UETMM0441	Data Encryption	3	-	-	3	3
3	UETMM0541	Steganography & Digital Watermarking	3	-	-	3	3
4	UETMM0641	Security Assessment & Risk Analysis	3	-	-	3	3
5	UETMM0741	Database security & Access Control	3	-	-	3	3
Total:						14	14

B. Bucket-II: Multidisciplinary Minor in Computer Vision

****Multi disc. minor**

Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UETMM0342	Computer Graphics	2	-	-	2	2
2	UETMM0442	Machine Learning	3	-	-	3	3
3	UETMM0542	Deep Learning	3	-	-	3	3
4	UETMM0642	Image Processing	3	-	-	3	3
5	UETMM0742	Pattern Recognition & Computer Vision	3	-	-	3	3
Total:						14	14

C. Bucket-III: Multidisciplinary Minor in Robotics & Automation

****Multi disc. minor**

Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UELMM0341	Introduction to Robotics & Automation	2	-	-	2	2
2	UELMM0441	Sensors in Automation	3	-	-	3	3
3	UELMM0541	Microprocessor & Real Time Embedded Systems	3	-	-	3	3
4	UELMM0641	Artificial Intelligence in Robotics	3	-	-	3	3
5	UELMM0741	Applications of Robotics & Automation	3	-	-	3	3
Total:						14	14

D. Emerging Minor in Sensor Technology

Emerging area minor							
Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UETMN0361	Sensor Technology : Physics, Fabrication and Circuits	3	1	-	4	4
2	UETMN0461	Micro-sensor circuits	3	1	-	4	4
3	UETMN0561	Sensors & Sensor Circuits	3	1	-	4	4
4	UETMN0661	Electric Vehicle Sensors	3	1	-	4	4
5	UETMN0761	Industrial Sensors	2	-	-	2	2
Total:						18	18

E. B.Tech. (Hons) in IOT.

Emerging specialization minor							
Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UETHN0351	DBMS in Cloud	3	1	-	4	04
2	UETHN0451	Python for Cloud Computing	3	1	-	4	04
3	UETHN0551	IOT Architecture and Protocols	3	-	-	3	03
4	UETHN0651	Design of IOT Devices	3	1	-	4	04
5	UETHN0751	Data Analytics and Security of IOT	3	-	-	3	03
Total:						18	18

Exit Courses

A. After First Year:

The candidate should pass any two suitable skill based courses to qualify for Certification.

Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UETEX0291	Consumer Electronics	4	-	-	4	4
	UETEX0292	Radio Engineering	4	-	-	4	4
2	UETEX0293	Electronics Servicing and Maintenance of photo copy machine	4	-	-	4	4
3	UETEX0294	Electronic Materials & Components	4	-	-	4	4
Total:							12

B. After Second Year:

The candidate should pass following skill based courses to qualify for Diploma.

Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UETEX0491	Data Communication and Networking	3	-	-	3	3
2	UETEX0492	Electronics Servicing and Maintenance	3	-	-	3	3
3	UETEX0493	Industrial Training	2	-	-	2	2
Total:							8

C. After Third Year:

The candidate should pass following skill based courses to qualify for B. Voc

Sr. No.	Course Code	Course Name	L	T	P	Hrs. / Week	Credits
1	UETEX0691	Advanced Mobile Communication	3	-	-	3	3
2	UETEX0692	Cyber Security	3	-	-	3	3
3	UETEX0693	Internship	2	-	-	2	2
Total:							8