



Electronics and Communication Engineering

Electronics and Communication Engineering department is offering “**Honours**” and “**Additional Minor Engineering**” degree under the following rules and eligibility criteria.

Students, who have taken admission on or after 2018-19 academic year, will be eligible to get Under Graduate Degree with “**Honours**” or “**Additional Minor Engineering**”, if he/she completes an additional 20 credits through MOOCs/NPTEL/any other on-line courses apart from 160 academic credits.

INSTRUCTIONS FOR MINOR OR HONOURS DEGREE:

1. For **Additional Minor Engineering**, a student has to earn at least twenty (20) Additional credits from professional courses.
2. A Student can choose the courses which were not studied earlier in the previous semester. Further the courses should not be present in the curriculum of the forthcoming semesters.
3. For “Additional Minor Engineering”, a student has to earn additional credits from their discipline.
4. Credits for 4 weeks course is-1, for 8 weeks course is-2, for 12 weeks course is-3.
5. A student must ensure that he/she shall earn these additional credits before the completion of the regular course.
6. It is the student’s responsibility for registering the courses through ONLINE and the required registration fee shall be borne by the respective student.
7. Students have to register for the courses with the approval of Head of the Department.
8. A student is eligible to opt either for “**Honours**” or “**Additional Minor Engineering**”, **not eligible for the both.**

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY(A)
Department of Electronics and Communication Engineering

NPTEL EQUIVALENT COURSES FOR MINOR DEGREE 2022-2023 (Jan-April)

Date: 01-01-2023

Additional Minor Engineering Degree In

- I. Communications and Networking
- II. Embedded Systems & IoT
- III. Signal Processing
- IV. VLSI

Level	Credits
Basic	8 to 10 credits
Advanced	10 to 12 credits

Note: Student has to choose the courses at least from any two groups and from each group at most 2 courses only.

***-subject to approval, from the department**

The Tentative list of courses for Additional Minor Degree approved by Electronics and communication Engineering Department BoS members are as follows:

NPTEL/ COURSERA EQUIVALENT COURSES

Sl no	Course Code	Course Name	Institute	Credits	Duration	Start date	Exam date	Nptel/Coursera links
Communications and Networking								
Basic Level								
1	noc23-ee68	Basic Tools Of Microwave Engineering	IITKGP	1	4 Weeks	February 20, 2023	April 30, 2023	https://onlinecourses.nptel.ac.in/noc23_ee68
2	noc23-ee02	Electromagnetic Waves in Guided and Wireless Media	IITK	2	8 Weeks	January 23, 2023	March 26, 2023	https://onlinecourses.nptel.ac.in/noc23_ee02
3	noc23-ee05	Principles of Communication Systems - I	IITK	3	12 Weeks	January 23, 2023	April 30, 2023	https://onlinecourses.nptel.ac.in/noc23_ee05
4	noc23-ee36	RF and Microwave Networks	IITKGP	3	12 Weeks	January 23, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee36
5	noc23-ee76	Optical Engineering	IITM	3	12 Weeks	January 23, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee76
Advanced Level								
1	noc23-ee45	Analysis And Design Principles Of Microwave Antennas	IITKGP	2	8 Weeks	February 20, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee45
2	noc23-ee61	Optical Wireless Communications for Beyond 5G Networks and IoT	IIITD	3	12 Weeks	January 23, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee61
3	noc23-ee69	Millimeter Wave Technology	IITKGP	2	8 Weeks	January 23, 2023	March 26, 2023	https://onlinecourses.nptel.ac.in/noc23_ee69
4	noc23-ee70	Fundamentals Of MIMO	IITKGP		8 Weeks	January 23, 2023	March 26, 2023	https://onlinecourses.nptel.ac.in/noc23_ee70

		Wireless Communication						
5	noc23-ee73	Communication Networks	IITKGP	3	12 Weeks	January 23, 2023	April 30, 2023	https://onlinecourses.nptel.ac.in/noc23_ee73
6	noc23-ee74	Analog Circuits And Systems Through SPICE Simulation	IITKGP	3	12 Weeks	January 23, 2023	April 30, 2023	https://onlinecourses.nptel.ac.in/noc23_ee74
7	noc23-ee75	Spread Spectrum Communications And Jamming	IITKGP	3	12 Weeks	January 23, 2023	April 30, 2023	https://onlinecourses.nptel.ac.in/noc23_ee75
8	noc23-ee08	Principles of Digital Communications	IITD	3	12 Weeks	January 23, 2023	April 30, 2023	https://onlinecourses.nptel.ac.in/noc23_ee08
9	noc23-ee15	Transmission lines and electromagnetic waves	IITM	3	12 Weeks	January 23, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee15
10	noc23-ee26	Recent Advances in Transmission Insulators	IISc	1	4 Weeks	January 23, 2023	March 26, 2023	https://onlinecourses.nptel.ac.in/noc23_ee26
11	noc23-ee46	Evolution Of Air Interface Towards 5G	IITKGP	2	8 Weeks	February 20, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee46

Embedded Systems & IoT

Basic Level

1	noc23-ee06	Microprocessors and Interfacing	IITG	3	12 Weeks	January 23, 2023	April 30, 2023	https://onlinecourses.nptel.ac.in/noc23_ee06
2	noc23-ee09	A brief introduction of Micro - Sensors	IISER Bhopal	1	4 Weeks	January 23, 2023	March 26, 2023	https://onlinecourses.nptel.ac.in/noc23_ee09
3	noc23-ee47	Microprocessors And	IITKGP	3	12 Weeks	January 23, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee47

		Microcontrollers						
4	noc23-ee66	Sensors and actuators	IISc	3	12 Weeks	January 23, 2023	April 30, 2023	https://onlinecourses.nptel.ac.in/noc23_ee66
Advanced Level								
1	noc23-ee60	Smart Grid: Basics to Advanced Technologies	IITR	3	12 Weeks (8 weeks + 4 weeks new)	January 23, 2023	April 30, 2023	https://onlinecourses.nptel.ac.in/noc23_ee60
Signal Processing								
Basic Level								
1	noc23-ee33	Digital Signal Processing	IITM	3	12 Weeks	January 23, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee33
2	noc23-ee04	Principles of Signals and Systems	IITK	3	12 Weeks	January 23, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee04
3	noc23-ee14	Signals and Systems	IIT Mandi	3	12 Weeks	January 23, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee14
4	noc23-ee39	Computer Vision and Image Processing - Fundamentals and Applications	IITG	3	12 Weeks	January 23, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee39
5	noc23-ee31	Digital Signal Processing and its Applications	IITB	3	12 Weeks	January 23, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee31
6	noc23-ee64	An Introduction to Information Theory	IITK	2	8 Weeks	January 23, 2023	March 26, 2023	https://onlinecourses.nptel.ac.in/noc23_ee64
Advanced Level								
1	noc23-ee28	Multirate DSP	IITM	3	12 Weeks	January 23, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee28
2	noc23-ee71	Discrete Time Signal Processing	IITKGP	2	8 Weeks	January 23, 2023	March 26, 2023	https://onlinecourses.nptel.ac.in/noc23_ee71
3	noc23-ee72	Signal Processing Techniques	IITKGP	3	12 Weeks	January 23, 2023	April 30, 2023	https://onlinecourses.nptel.ac.in/noc23_ee72

		and its Applications						
4	noc23-ee43	Medical Image Analysis	IITKGP	2	4 Weeks	January 23, 2023	March 26, 2023	https://onlinecourses.nptel.ac.in/noc23_ee43
5	noc23-ee49	Biomedical Signal Processing	IITKGP	3	12 Weeks	January 23, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee49
6	noc23-ee30	Stochastic Modeling and the Theory of Queues	IITM	3	12 Weeks	January 23, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee30
7	noc23-ee32	Foundations of Wavelets and Multirate Digital Signal Processing	IITB	1	4 Weeks	January 23, 2023	March 26, 2023	https://onlinecourses.nptel.ac.in/noc23_ee32

VLSI

Basic Level

1	noc23-ee10	Analog Ic Design	IITM	3	12 Weeks	January 23, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee10
2	noc23-ee11	Digital IC Design	IITM	3	12 Weeks	January 23, 2023	April 30, 2023	https://onlinecourses.nptel.ac.in/noc23_ee11
3	noc23-ee17	Fundamentals of semiconductor devices	IISc	3	12 Weeks	January 23, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee17
4	noc23-ee19	Analog Circuits	IITB	2	8 Weeks	January 23, 2023	March 26, 2023	https://onlinecourses.nptel.ac.in/noc23_ee19
5	noc23-ee29	Digital System Design	IIT Ropar	3	12 Weeks	January 23, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee29
6	noc23-ee50	Digital Electronic Circuits	IITKGP	3	12 Weeks	January 23, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee50
7	noc23-ee54	Network Analysis	IITKGP	3	12 Weeks	January 23, 2023	April 30, 2023	https://onlinecourses.nptel.ac.in/noc23_ee54
8	noc23-ee62	Basic Electronics	IITB	3	12 Weeks	January 23, 2023	April 30, 2023	https://onlinecourses.nptel.ac.in/noc23_ee62

Advanced Level

1	noc23-ee34	Circuit Analysis for Analog Designers	IITM	3	12 Weeks	January 23, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee34
2	noc23-ee07	CMOS Digital VLSI Design	IITR	2	8 Weeks	January 23, 2023	March 26, 2023	https://onlinecourses.nptel.ac.in/noc23_ee07
3	noc23-ee35	Semiconductor device modeling and Simulation	IITKGP	3	12 Weeks	January 23, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee35
4	noc23-ee25	Architectural Design of Digital Integrated Circuits	IEST Shibpur	3	12 Weeks	January 23, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee25
5	noc23-ee67	Physics of Nanoscale Devices	IITR	3	12 Weeks	January 23, 2023	April 30, 2023	https://onlinecourses.nptel.ac.in/noc23_ee67
6	noc23-ee65	Op-Amp Practical Applications: Design, Simulation and Implementation	IISc	3	12 Weeks	January 23, 2023	April 30, 2023	https://onlinecourses.nptel.ac.in/noc23_ee65
7	noc23-ee44	VLSI Signal Processing	IITKGP	2	8 Weeks	February 20, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee44
8	noc23-ee40	Design and Analysis of VLSI Subsystems	IIT Bangalore	3	12 Weeks	January 23, 2023	April 29, 2023	https://onlinecourses.nptel.ac.in/noc23_ee40
9	noc23-ee18	Microwave Integrated Circuits	IITB	2	8 Weeks	January 23, 2023	March 26, 2023	https://onlinecourses.nptel.ac.in/noc23_ee18

