Scheme of Studies

Master of Technology
Electronics and Communication Engineering
2020

Department of EECE

SCHOOL OF ENGINEERING & TECHNOLOGY

THE NORTHCAP UNIVERSITY, GURGAON

(Established under Haryana Govt. Notification No. Leg. 32/2006-HARYANA ACT No.25 of 2009)

Scheme of Studies
M.Tech in Electronics and Communication Engineering

Department of EECE offers the following programs during the academic year 2020-21:

Master of Technology (M.Tech.) in Electronics and Communication Engineering with specialization in
- Communication Engineering
- VLSI Design

There are 2 options for M.Tech program:
- M.Tech Full Time (Course Duration – 2 years)
  A well - balanced, industry driven, and research aligned curriculum that ensures integrating theory with real-world applications. Holistic pedagogy and emphasis on development of additional technical skills helps students to head start their career in core industries.

- M.Tech Part Time (Course Duration - 3 years)
  A specially designed three years program for working professional with flexible teaching pedagogy and flexible credit-based system to ensure smooth learning along with the routine office work.

Department of EECE
M. Tech (Electronics and Communication Engineering)
With specialization in
Communication Engineering
VLSI Design
2020

Semester	Course Code Course Name				Modular Course	Lecture Course	L	T	P	Week Cont. Hrs	Credits
I	ECL501 Digital Signal Processing 3-0-2(4)	ECL505 Adv. Digital Communication 3-0-2(4)	ECL523 Digital VLSI Design 3-0-2(4)	ECC509 Seminar 0-0-4(2)	ECV529 Linux/Scripting/ Emerging Technologies/PDP 0-0-4(2)	3	9	0	10	23	16
II	ECL582 Data structures & algorithms using C++ 3-0-2(4) MOOC	MAL616 **Research Methodology 2-1-0(3)**	**Program Elective** Elective-1 2-0-2(3)	ECD512 Minor Project 0-0-6(3)		3	7	1	8	18	13
III	**Program Elective** Elective-2 2-0-2(3)	**Program Elective** Elective-3 2-0-2(3) **MOOC**	**Open Elective-1 2-0-2(3) MOOC**	ECD605 Dissertation (Phase-1) 0-0-8(4)		3	6	0	14	20	13
IV	**ECD602** Dissertation (Phase-2) 0-0-24(12)	**Open Elective-2 2-0-2(3)**				1	2	0	26	28	15
									89		**57**

TRACK I: Communication Engineering			TRACK II: VLSI Design		
Sem II		**Sem III**	**Sem II**		**Sem III**
PE-1	PE-2	PE-3	PE-1	PE-2	PE-3
ECL506 Optical Communication	ECL502 Digital Image Processing	ECL564 Soft Computing	ECL525 Semiconductor device modeling and Technology	ECL534 CMOS RF Circuit Design	ECL629 Cryptography and Crypto Chip Design
ECL517 Information Theory and Coding	ECL504 Modern Telecom Switching	ECL576 Network Security	ECL527 Digital System Design with Verilog HDL	ECL530 Computer Aided VLSI Design	ECL631 Design of VLSI systems
ECL535 Microwave Theory and Circuits	ECL508 Wireless Mobile communication	ECL578 Broadband Communication	ECL531 Design and Analysis of Computer Architecture	ECL538 Hardware Software CoDesign	ECL633 Mixed Signal Design
ECL537 Detection and Estimation Theory	ECL562 Millimeter Wave Integrated Circuits	ECL621 Statistical Signal Procesing	ECL536 VLSI Fabrication and Technology	ECL540 Real Time Systems and Software	ECL635 Microwave and Optoelectronic Devices
ECL539 Speech Communication	ECL570 Internet of Things	ECL623 Network Management	ECL532 Embedded System Design	ECL542 Designing with ASICs	ECL637 VLSI Test and Testability
ECL532 Embedded System Design	ECL572 Modern Antennas and Arrays	ECL611 Mobile Computing	ECL542 Special Topics in VLSI Design	ECL528 Analog VLSI Design	ECL524 Low Power VLSI Design
ECL516 Special Topics in Electronics and Communication	ECL555 Special Toics in Electronics and Communication	ECL653Telecom Systems and Technologies		ECL570 Internet of Things	ECL625 ASIC Design and Verification with SV
		ECL655 Access Networks			ECL627 MEMS
		ECL657 Wireless Sensor Networks			
		ECL659 Global Navigation Satellite Systems and Applications			