

CURRICULUM & SYLLABUS



CHOICE BASED CREDIT SYSTEM (CBCS)

FOR

MASTER OF TECHNOLOGY (M.Tech.)

(2 Year Postgraduate Degree Program)

IN

MICROELECTRONICS

[w. e. f. 2023-2024]

**FACULTY OF ENGINEERING AND TECHNOLOGY
SRM UNIVERSITY DELHI-NCR, SONEPAT
Plot No.39, Rajiv Gandhi Education City, P.S. Rai, Sonapat
Haryana-131029**

SRM UNIVERSITY DELHI-NCR, SONEPAT (HARYANA)

VISION

SRM University Delhi-NCR, Sonapat, Haryana aims to emerge as a leading world-class university that creates and disseminates knowledge upholding the highest standards of instruction in Medicine & Health Sciences, Engineering & Technology, Management, Law, Science & Humanities. Along with academic excellence and skills, our curriculum imparts integrity and social sensitivity to mould our graduates who may be best suited to serve the nation and the world.

MISSION

1. To create a diverse community campus that inspires freedom and innovation.
2. Promote excellence in educational & skill development processes. Continue to build productive international alliances.
3. Explore optimal development opportunities available to students and faculty.
4. Cultivate an exciting and rigorous research environment.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

VISION

Department is committed to provide Intellectual, Innovative & Inspirational environment and contribute to academic, scientific, research and technical knowledge through excellence and to produce technocrats, researchers and bureaucrats.

MISSION

1. To improve the problem-solving capability of students through continual learning to produce quality engineers and researcher in the field of VLSI Design, Microelectronics, Embedded system design and circuit design.
2. To bridge the gap between industry and academia by bringing state-of-the-art technology.
3. To encourage innovation through multidisciplinary research and development activities.
4. To inculcate human values and ethics into students to serve the society in all possible ways

SEMESTER-I

Code	Category	Course	L	T	P	C
Theory						
	OE	Open Elective-I	4	0	0	4
19MIC0101		Semiconductor Devices & Modeling	4	0	0	4
19MIC0103		VLSI-CAD	4	0	0	4
19MIC0105		Digital VLSI Design	4	0	0	4
	DE	Departmental Elective-I	4	0	0	4
Practical						
19MIC0121		Microelectronics Lab-I	0	0	4	3
Total			20	1	4	23
Total Contact Hours			25			

SEMESTER-II

Code	Category	Course	L	T	P	C
Theory						
19MIC0102		Analog VLSI Design	4	1	0	4
19MIC0104		VLSI Process Technology	4	0	0	4
19MIC0106		FPGA and Reconfigurable System	4	0	0	4
	DE	Department Elective-II	4	0	0	4
	DE	Department Elective-III	4	0	0	4
Practical						
19MIC0122		Microelectronics Lab-II	0	0	4	3
Total			20	1	4	23
Total Contact Hours			25			

SEMESTER-III

Code	Category	Course	L	T	P	C
Theory						
19MIC0201		Mixed Signal system Design	4	1	0	4
	DE	Department Elective-IV	4	0	0	4
Practical						
19MIC0251		Seminar	0	0	0	4
19MIC0271		Dissertation Phase-I	0	0	16	8
Total			12	1	16	20
Total Contact Hours			29			

SEMESTER-IV

Code	Category	Course	L	T	P	C
Practical						
19MIC0272		Dissertation Phase-II	0	0	24	12
Total			0	0	24	12
Total Contact Hours			24			

Total Credits: 78

LIST OF OPEN AND DEPARTMENTAL ELECTIVES

Code	Category	Course	L	T	P	C
Open Elective						
19MOE0101		Research Methodology	4	0	0	4
19MOE0103		Advance Mathematics and Computations	4	0	0	4
19MOE0105		Nano Technology	4	0	0	4
19MOE0107		Engineering Economics and Management	4	0	0	4
19MOE0109		Industrial Management	4	0	0	4
19MOE0011		Reliability and quality Management	4	0	0	4
19MOE0015		Entrepreneurship Development	4	0	0	4
Departmental Elective-I						
19MIE0101		Modeling of MOS Devices	4	0	0	4
19MIE0103		VLSI Architecture	4	0	0	4
19MIE0105		Device Physics and Technology	4	0	0	4
Departmental Elective-II						
MIE0102		Memory Design and Testing	4	0	0	4
19MIE0104		High Speed VLSI Design	4	0	0	4
19MIE0106		Fault Tolerance in VLSI	4	0	0	4
Departmental Elective-III						
19MIE0108		Advanced Analog Circuit Design Techniques	4	0	0	4
19MIE0011		System on Chip Design	4	0	0	4
19MIE0015		Photonics Devices and Circuits	4	0	0	4
Departmental Elective-IV						
19MIE0201		Low Power VLSI Design	4	0	0	4

19MIE0203		VLSI Subsystem Design	4	0	0	4
19MIE0205		Application Specific IC Design (ASIC Design)	4	0	0	4
19MIE0207		MEMS Design	4	0	0	4
19MIE0209		Nanoelectronics	4	0	0	4
19MIE0211		Artificial Intelligence & Neural Network	4	0	0	4