TENTATIVE CURRICULUM*

M.Tech. Embedded & Machine Learning Systems

1st Semester

S.No.	Code	Course Title	L-T-P	Credits
1	EC1601	Embedded Hardware Platforms and programming	3-0-0	3
2	EC1603	Machine Learning Algorithms and Applications	3-0-0	3
3	EC1605	FPGA Based Systems Design	3-0-2	4
4		Elective I	3-0-0	3
5		Elective II	3-0-0	3
6	EC1607	Embedded systems LAB	0-0-3	2
7	EC1609	Machine Learning LAB	0-0-3	2
			Total Credits	20

2nd Semester

S.No.	Code	Course Title	L-T-P	Credits
1	EC1600	GPU Architectures and Programming	3-0-0	3
2	EC1602	Hardware Accelerators Design for Machine Learning models	3-0-0	3
3		Elective III	3-0-0	3
4		Elective IV	3-0-0	3
5		Elective-V	3-0-0	3
6	EC1604	GPU Programming LAB	0-0-3	2
7	EC1606	Hardware accelerators for machine learning LAB	0-0-3	2
8	EC1608	Minor Project	0-0-0	2
			Total Credits	21

3rd Semester

S.No.	Code	Course Title	L-T-P	Credits
1	EC1701	Seminar and Technical Writing	0-0-0	2
2	EC1703	Comprehensive Viva-Voce	0-0-0	2
3	EC1705	Major Project: Part-A	0-0-0	8
4	EC1707	Summer Internship/Research Experience	0-0-0	2
			Total Credits	14

4th Semester

S.No.	Code	Course Title	L-T-P	Credits
1	EC1700	Major Project: Part-B	0-0-0	12
			Total Credits	12

*Subjected to approval of Curriculum Development Committee

Professional Elective Courses:

Professional Elective-I		
S.No.	**Code**	**Course Title**
1	**EC1621**	Embedded RTOS
2	**EC1623**	Statistical Modelling and Optimization Techniques
3	**EC1625**	Machine Learning For Signal Processing
4	**EC1627**	IoT Architecture & Computing

Professional Elective-II		
S.No.	**Code**	**Course Title**
1	**EC1629**	VLSI DSP Architectures
2	**EC1631**	Deep Learning Architectures
3	**EC1633**	Machine Learning in Robotics
4	**EC1635**	Embedded Protocols & Device Drivers

Professional Elective-III		
S.No.	**Code**	**Course Title**
1	**EC1620**	Hardware/Software Co-design
2	**EC1622**	Machine Vision and Pattern Recognition
3	**EC1624**	Wireless Technologies
4	**EC1626**	Modern Computer Architecture

Professional Elective-IV		
S.No.	**Code**	**Course Title**
1	**EC1628**	Synthesis and Optimization of Digital Circuits
2	**EC1630**	Tiny ML & Edge AI
3	**EC1632**	Applied Machine Learning: Ensemble Learning
4	**EC262X**	Verification Methodologies: UVM

Professional Elective-V		
S.No.	**Code**	**Course Title**
1	**EC1634**	Hardware Security for Embedded Systems
2	**EC 1636**	Selected Topics in machine learning systems
3	**EC1638**	Artificial Intelligence in Biomedical Applications
4	**EC1640**	Machine Learning for speech and Audio Processing