

INDIAN INSTITUTE OF INFORMATION TECHNOLOGY BHAGALPUR
Dept. of Computer Science & Engineering (CSE)
M. Tech. in
Artificial Intelligence and Data Science
(For Industry Professionals)

Course Curriculum

Odd Batch (Semester-1)/ Even Batch (Semester-3)					Odd Batch (Semester-3)/ Even Batch (Semester-1)						
Code	Name	L	T	P	C	Code	Name	L	T	P	C
MA501	Statistical Foundation for Data Science	3	1	0	4	CS501	Advanced Data Structures and Algorithms	3	0	0	3
CS502	Artificial Intelligence	3	0	0	3	CS503	Data Mining	3	0	0	3
CS532	Artificial Intelligence Lab	0	0	3	2	CS531	Advanced Algorithms Lab	0	0	3	2
CS583	Seminar	0	0	0	1	CS5XX	Elective-I	3	0	0	3
Total Credit:					10	Total Credit:					11

Odd Batch (Semester-2)/ Even Batch (Semester-4)						Odd Batch (Semester-4)/ Even Batch (Semester-2)					
Code	Name	L	T	P	C	Code	Name	L	T	P	C
MA502	Mathematical Foundation for Data Science	3	1	0	4	EC516	Computational Intelligence	3	0	0	3
CS504	Machine Learning	3	0	0	3	CS5XX	Elective-II	3	0	0	3
CS533	Machine Learning Lab	0	0	3	2	CS5XX	Elective-III	3	0	0	3
CS581	Capstone Project-I	0	0	0	1	CS534	R Programming Lab	0	0	3	2
Total Credit:					10	Total Credit:					11

Semester-5					Semester-6						
Code	Name	L	T	P	C	Code	Name	L	T	P	C
CS591	Major Project-I	0	0	0	10	CS592	Major Project-II	0	0	0	14

Total Program Credit: 66

Elective Courses (I, II & III)											
Code	Name	L	T	P	C	Code	Name	L	T	P	C
CS551	Data Visualization	3	0	0	3	CS556	Introduction to Reinforcement Learning	3	0	0	3
CS552	Advanced Database Systems	3	0	0	3	CS557	Introduction to Blockchain Technology	3	0	0	3
CS553	Big Data and Cloud Computing	3	0	0	3	CS558	Deep Learning and its Applications	3	0	0	3
CS554	Natural Language Processing	3	0	0	3	EC558	Introduction to Pattern Recognition	3	0	0	3
CS555	Fundamentals of Information Retrieval	3	0	0	3						

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 1. Candidates who possess the minimum educational qualification i.e. B.Tech (CSE/IT/ECE/EE/EI), MCA or equivalent are eligible to seek admission to this programme.
 2. The duration of the course will be 03 years (02 year for course work and 01 year for thesis). There will be provision for integrating dissertation (thesis) with industry work.
 3. A degree equivalent to that of the full-time students would be awarded after a candidate successfully earns required credits.
 4. Attend classes remotely from anywhere.
 5. Candidates must have at least two years of relevant experience in industry and/or research labs on the last date of the submission of application. Work experience before the qualifying degree will not be counted. The candidate must be currently a working professional.
 6. Candidate should submit the experience certificate and NoC as attached in the application form. The experience certificate should have the proof for the duration as certified by the employer.

INDIAN INSTITUTE OF INFORMATION TECHNOLOGY BHAGALPUR
Dept. of Mechatronics Engineering (MEA)
M. Tech. in
Electric Vehicle Technology
(For Industry Professionals)

Course Curriculum

Odd Batch (Semester-1)/ Even Batch (Semester-3)						Odd Batch (Semester-3)/ Even Batch (Semester-1)							
Code	Name	L	T	P	C	Code	Name	L	T	P	C		
MEA501	Hybrid and Electric Vehicle	3	1	0	4	MEA502	Dynamics and Control of Electric Vehicle	3	0	0	3		
	Elective -I	3	0	0	3	MEA504	Battery and Charging Technology in EV	3	0	0	3		
MEA532	Simulation LAB	0	0	3	2	MEA503	Automation in Electric Vehicle	3	0	0	3		
MEA583	Seminar	0	0	0	1	MEA531	Automation Lab	0	0	3	2		
					Total Credit:	10						Total Credit:	11

Odd Batch (Semester-2)/ Even Batch (Semester-4)						Odd Batch (Semester-4)/ Even Batch (Semester-2)									
Code	Name	L	T	P	C	Code	Name	L	T	P	C				
CS504	Machine Learning	3	0	0	3	MEA505	Electrical Drive	3	1	0	4				
MEA506	Battery Management System	3	0	0	3		Elective -II	3	0	0	3				
CS533	Machine Learning Lab	0	0	3	2		Elective -III	3	0	0	3				
MEA533	Battery Management Lab	0	0	3	2										
MEA581	Capstone Project – I	0	0	0	1										
Total Credit:					11	Total Credit:					10				

Semester-5						Semester-6							
Code	Name	L	T	P	C	Code	Name	L	T	P	C		
MEA591	Major Project-I	0	0	0	10	MEA592	Major Project-II	0	0	0	14		

Total Program Credit: 66

Elective Courses (I, II & III)											
Code	Name	L	T	P	C	Code	Name	L	T	P	C
MEA551	Finite Element Method	3	0	0	3	CS511	Artificial Intelligence	3	0	0	3
MEA552	Modelling and Analysis of Electric Machines	3	0	0	3	MA503	Probability and Stochastic Processes	3	0	0	3
MEA553	Computational Fluid Dynamics	3	0	0	3	EC553	IoT & Sensors	3	0	0	3
MEA554	Computer Integrated Manufacturing	3	0	0	3	EC503	Computational Intelligence	3	0	0	3
MEA555	CAD for Electric Vehicle	3	0	0	3						

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INDIAN INSTITUTE OF INFORMATION TECHNOLOGY BHAGALPUR
Dept. of Electronics and Communication Engineering (ECE)
M. Tech. in
Signal Processing & Machine Learning
(For Industry Professionals)

Course Curriculum

Odd Batch (Semester-1)/ Even Batch (Semester-3)						Odd Batch (Semester-3)/ Even Batch (Semester-1)					
Code	Name	L	T	P	C	Code	Name	L	T	P	C
EC501	Signal Processing Algorithms and Architectures	3	0	2	4	MA503	Probability and Stochastic Processes	3	0	0	3
CS521	Artificial Intelligence	3	0	2	4	EC502	Medical Imaging and Bio-signal Analysis	3	0	0	3
EC531	Digital Signal Processors Lab	0	0	3	2		Elective-I	3	0	0	3
EC583	Seminar	0	0	0	1	EC532	Medical Imaging and Bio-signal Analysis Lab	0	0	3	2
Total Credit:					11	Total Credit:					11

Odd Batch (Semester-2)/ Even Batch (Semester-4)						Odd Batch (Semester-4)/ Even Batch (Semester-2)					
Code	Name	L	T	P	C	Code	Name	L	T	P	C
CS504	Machine Learning	3	0	0	3	EC504	Statistical Signal Processing	3	0	0	3
EC503	Computational Intelligence	3	0	0	3		Elective-II	3	0	0	3
CS533	Machine Learning Lab	0	0	3	2		Elective-III	3	0	0	3
EC581	Capstone Project - I	0	0	0	1	EC533	Signal Applications Lab	0	0	3	2
Total Credit:					9	Total Credit:					11

Semester-5						Semester-6					
Code	Name	L	T	P	C	Code	Name	L	T	P	C
EC591	Major Project-I	0	0	0	10	EC592	Major Project-II	0	0	0	14

Total Program Credit: 66

Elective Courses (I, II & III)											
Code	Name	L	T	P	C	Code	Name	L	T	P	C
EC551	VLSI for DSP	3	0	0	3	EC557	Microwave Imaging and Radar Signal Processing	3	0	0	3
EC552	Image Processing and Computer Vision	3	0	0	3	EC558	Introduction to Pattern Recognition	3	0	0	3
EC553	Introduction to IoT	3	0	0	3	MA521	Statistical Foundation for Data Science	3	0	0	3
EC554	Signal Detection and Estimation Theory	3	0	0	3	CS557	Introduction to Blockchain Technology	3	0	0	3
EC555	Speech and Audio Processing	3	0	0	3	CS558	Deep Learning and Applications				
EC556	MIMO Wireless Communications	3	0	0	3						

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INDIAN INSTITUTE OF INFORMATION TECHNOLOGY BHAGALPUR
Dept. of Electronics and Communication Engineering (ECE)
M. Tech. in
VLSI & Embedded System
(For Industry Professionals)

Course Curriculum

Odd Batch (Semester-1)/ Even Batch (Semester-3)						Odd Batch (Semester-3)/ Even Batch (Semester-1)					
Code	Name	L	T	P	C	Code	Name	L	T	P	C
EC510	Embedded System Design	3	0	2	4	EC512	Digital VLSI Design	3	0	2	4
EC511	Modeling & Simulation of Nanoscale Device	3	0	0	3	EC513	VLSI DSP	3	0	0	3
EC535	Device Simulation LAB	0	0	3	2		Elective-I	3	0	0	3
EC583	Seminar	0	0	0	1						
Total Credit:					10	Total Credit:					10

Odd Batch (Semester-2)/ Even Batch (Semester-4)						Odd Batch (Semester-4)/ Even Batch (Semester-2)							
Code	Name	L	T	P	C	Code	Name	L	T	P	C		
EC514	Analog VLSI Design	3	0	0	3	EC516	SoC Design using Verilog	3	0	2	4		
EC515	Embedded Computing	3	0	2	4		Elective-II	3	0	0	3		
EC536	Analog IC Design LAB	0	0	3	2		Elective-III	3	0	0	3		
EC581	Capstone Project-I	0	0	0	1								
					Total Credit:	10						Total Credit:	10

Semester-5					Semester-6						
Code	Name	L	T	P	C	Code	Name	L	T	P	C
EC591	Major Project-I	0	0	0	10	EC592	Major Project-II	0	0	0	14

Total Program Credit: 64

Elective Courses (I, II & III)											
Code	Name	L	T	P	C	Code	Name	L	T	P	C
EC561	Semiconductor Microwave Devices and Applications	3	0	0	3	EC567	CAD for VLSI	3	0	0	3
EC562	Semiconductor IC Technology	3	0	0	3	EC568	MEMS & NEMS	3	0	0	3
EC563	RF Integrated Circuit Design	3	0	0	3	EC569	Real Time and Embedded Operating Systems	3	0	0	3
EC564	Performance and Reliability of VLSI Circuits	3	0	0	3	EC570	Quantum Electronics	3	0	0	3
EC565	Advanced VLSI Interconnects	3	0	0	3	EC553	Introduction to IoT 3-0-2-4	3	0	0	3
EC566	VLSI Physical Design	3	0	0	3	EC571	Hardware Security	3	0	0	3

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INDIAN INSTITUTE OF INFORMATION TECHNOLOGY BHAGALPUR
Dept. of Electronics and Communication Engineering (ECE)
M. Tech. in
Microwave and Communication System
(For Industry Professionals)

Course Curriculum

Odd Batch (Semester-1)/ Even Batch (Semester-3)						Odd Batch (Semester-3)/ Even Batch (Semester-1)					
Code	Name	L	T	P	C	Code	Name	L	T	P	C
MA503	Probability and Stochastic Processes	3	0	0	3	EC522	Computational Electromagnetics	3	0	2	4
EC521	Advance Electromagnetics and Antenna	3	0	2	4	EC523	Microwave Circuits & Measurements	3	0	0	3
EC541	Microwave Simulation and Measurement Lab	0	0	3	2		Elective-I	3	0	0	3
EC583	Seminar	0	0	0	1						
Total Credit:					10	Total Credit:					10

Odd Batch (Semester-2)/ Even Batch (Semester-4)						Odd Batch (Semester-4)/ Even Batch (Semester-2)							
Code	Name	L	T	P	C	Code	Name	L	T	P	C		
EC556	MIMO Wireless Communication	3	0	0	3	EC525	Microwave Communication System	3	0	2	4		
EC524	Monolithic Microwave Integrated Circuit	3	0	2	4		Elective-II	3	0	0	3		
EC542	Advance Communication Engineering Lab	0	0	3	2		Elective-III	3	0	0	3		
EC581	Capstone Project-I	0	0	0	1								
					Total Credit:	10						Total Credit:	10

Semester-5					Semester-6						
Code	Name	L	T	P	C	Code	Name	L	T	P	C
EC591	Major Project-I	0	0	0	10	EC592	Major Project-II	0	0	0	14

Total Program Credit: 64

Elective Courses (I, II & III)											
Code	Name	L	T	P	C	Code	Name	L	T	P	C
EC561	Semiconductor Microwave Devices and Applications	3	0	0	3	C574	Principles and Techniques for Modern Radar System	3	0	0	3
EC557	Microwave Imaging and Radar Signal Processing	3	0	0	3	EC575	Advance Mobile Communication System	3	0	0	3
EC563	RF Integrated Circuit Design	3	0	0	3	EC576	Electromagnetic Interference & Electromagnetic Compatibility	3	0	0	3
EC571	Advanced Antenna & Array Design	3	0	0	3	EC577	Advance Optical Communication	3	0	0	3
EC572	THz Communication System	3	0	0	3	EC503	Computational Intelligence	3	0	0	3
EC573	Wireless Sensor Network	3	0	0	3						

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