

## Faculty Allocation Plan for Department of Machine Learning - Spring 2023

### MS - AI

All Semesters	Dept. of Machine Learning, SEMESTER NO 1/2/3/4					
				Credit Hours		Dept
	S/no	Course Code	Courses	CHs		
	1	COMP-844	Advanced Machine Learning	3		
	2	COMP-849	Computational intelligence and IoT	3		
	3	COMP-845	Advanced Deep learning	3		
	4	COMP-941	AI for Biomedical Engineering	3		
	5	COMP-840	Statistical and Mathematical Methods for Data Analysis	3		
	8	COMP-833	Advanced Big Data Analytics	3		
	9	COMP-831	Tools and Techniques for Data Science	2		
10	COMP-830	Tools and Techniques for Data Science Lab	1			
<b>Total Credit Hrs</b>						

### Department of Bio Medical Sciences

1st & 2nd Semester	Master of Science in Biomedical Science				
	Batch Fall - 2022		SEMESTER No 1 & 2	Credit Hours	
	S/no	Course Code	Courses	CHs	
	1	BTY-878	Bioentrepreneurship	3	
	2	BMS-866	Health Informatics	3	
	3	BMS-877	Elective III (Drug Induced Bio Signaling)	3	
	4	BTY-827	Elective IV (Advances in Protein Technology)	3	
	<b>Total Credit Hrs</b>			<b>12</b>	

Master of Science in Biotechnology				
Batch Fall - 2022		SEMESTER No 1 & 2	Credit Hours	
S/no	Course Code	Courses	CHs	
1	BTY-878	Bio-entrepreneurship	3	
2	BTY-828	Advances in Genetic Engineering	3	
3	BTY-827	Elective III (Advances in Protein Technology)	3	
4	BMS-877	Elective IV (Drug Induced Bio Signaling)	3	
<b>Total Credit Hrs</b>			<b>12</b>	

Department of Information Technology and Computer Science

MS in Data Science				
MS(DS)-F21/S22		SEMESTER NO 3/2/1		Credit Hours
S/no	Course Code	Courses	Teaching	
1		Statistical and Mathematical Methods for Data Analysis		3
2		Advanced big data analytics		3
3		Tools and Tehniques of Data Science		2
<b>Total Credit Hrs</b>				

## Department of Mineral Processing Engineering

2nd and 4th Semester	MS - Department of Mineral Processing Engineering			
	Fall 2022		SEMESTER NO 1	Credit
	S/no	Course Code	Courses	CHs
	1		Mineral Processing Engineering	
	2		Extractive Metallurgy	
	3		Research Methodology	
	4			
	5			
	6			
	7			
8				
9				
Total Credit Hrs				

## Department of Mining Engineering

2nd and 4th Semester	MS - Department of Mining Engineering			
	Fall 2022		SEMESTER NO 1	Credit
	S/no	Course Code	Courses	CHs
	1			
	2			
	3			
	4			
	5			
	6			
	7			
8				
9				
Total Credit Hrs				

## Department of Mechanical and Manufacturing Engineering

	Course Code	Course Name	Credit Hours	Department
1	MME841	Advanced Mechanical Design		3
2	MME 842	Introduction to Micro-Nanofabrication Techno		3
3	MME 862	Mechatronic System Design		3
4	MME 861	Robotics Technology and Applications		3
5	MME 821	Design Optimization and Analysis Techniques		3
6				
7		Thermodynamics		3

## Department of Materials Science and Engineering

<b>1st &amp; 2nd</b>	<b>MS - Department of Materials Science and Engineering</b>			
	<b>Batch 2022F, 2023S</b>		<b>SEMESTER NO 1,2</b>	<b>Credit</b>
	<b>S/no</b>	<b>Course Code</b>	<b>Courses</b>	<b>CHs</b>
	1	MSE-821	Advanced Materials Characterization	3
	2	MSE-812	Phase Transformation & Microstructures	3
	3		Research Methodology (for 2023 intake)	2
	4	MSE-861	Corrosion and Surface Protection	3
<b>Total Credits</b>			<b>11</b>	

## Department of Transportation and Railway Systems Engineering

<b>MS in Railway Systems Engineering</b>				
<b>Spring 2023</b>		<b>SEMESTER NO 1</b>	<b>Credit Hours</b>	
<b>S/no</b>	<b>Course Code</b>	<b>Courses</b>	<b>CHs</b>	<b>Program</b>
1	RSE-801	Introduction to Railway Systems	3	
2	RSE-802	Train Operations and Safety Regime	3	
3	RSE-811	Railway Infrastrcutre	3	
4	RSE-821	Rolling Stock Dynamics	3	
5	SS-821	Research Methodology	2	
<b>Total Credit Hrs</b>			<b>17</b>	

<b>2nd Semester</b>	<b>MS in Transportation Systems Engineering</b>				
	<b>Spring 2023</b>		<b>SEMESTER NO 1</b>	<b>Credit Hours</b>	
	<b>S/no</b>	<b>Course Code</b>	<b>Courses</b>	<b>CHs</b>	<b>Program</b>
	1	TSE-802	Urban and Sub Urban Transportation - Concepts, Strategy & Organization	3	
	2	TSE-814	Pavement Design & Analysis	3	
	3	TSE-847	ITS	3	
	<b>Total Credit Hrs</b>			<b>9</b>	

	<b>Course Code</b>	<b>Course Name</b>		<b>Core/Elective</b>	<b>CHs</b>
1	ECE-836	Advanced Computer Netowrks		Elective	3
2	ECE-865	Developing Industrial Internet of Things		Core	3
3	ECE-863	Advanced FPGA-based System Design		Core	3
4	SS-821	Research Methodology		Mandatory	2
5	ECE-898	MS Research Work			3
6	ECE-899	MS Thesis			3

### **MS Energy and Power Systems**

	<b>Course Code</b>	<b>Course Name</b>		<b>Core/Elective</b>	<b>CHs</b>
1	ECE-821	Advanced Power System Transmission and Distribution		Core	3
2	ECE-823	Advanced Power System Operation and Control		Core	3
3	COMP-844	Advanced Machine Learning		Elective	3
4	COMP-845	Advanced Deep Learning		Elective	3
5	SS-821	Research Methodology		Mandatory	2
6	ECE-898	MS Research Work			3
7	ECE-899	MS Thesis			3