

List of Open and Program Electives for Spring 2026 Semester

Sr. No.	Branch	Sem	Name of the elective offered	Type of Elective (Open/Program)	Subject code	Name of the faculty and designation	Prerequisites (if any)	Max. Number of Students	Exclusion criteria* (if more than maximum number of students opt the course)
Architecture and Plannning									
1	Architecture and Planning	4th	Theory of Design	Professional Elective	AR204201AR	Mr. Sayon Pramanik, Assistant Professor	Nil	35	Not Applicable
2		4th	Art in Architecture	Professional Elective	AR204202AR	Dr. Abir Bandyopadhyay, Professor	Nil	35	Not Applicable
3		6th	Earthquake Resistant Architecture	Open Elective	AR206301AR	Dr. Debashis Sanyal, Professor	Nil	35	Not Applicable
4		6th	Universal Design	Open Elective	AR206302AR	Dr. Shruti Sharad Nagdeve, Assistant Professor	Nil	35	Not Applicable
5		10th	Physical Planning, Theory and Techniques	Professional Elective	AR210201AR	Dr. Vivek Agnihotri, Assistant Professor	Nil	35	Not Applicable
6		10th	Human Settlement and Spatial Organization	Professional Elective	AR210203AR	Mr. Sayon Pramanik, Assistant Professor	Nil	35	Not Applicable
7		10th	Remote Sensing and Basic of GIS	Professional Elective	AR210204AR	Dr. Vivek Agnihotri, Assistant Professor	Nil	35	Not Applicable
8		10th	Building Certification and Rating Systems	Professional Elective	AR210205AR	Dr. Shruti Sharad Nagdeve, Assistant Professor	Nil	35	Not Applicable
9		10th	Building Economics and Sociology	Professional Elective	AR210206AR	Mr. Sachin Sahu, Assistant Professor	Nil	35	Not Applicable
Bio-Medical Engineering									
1	Biomedical Engineering	6th	Biomicrofluidics	Program Elective - II	BM106202BM	Dr. Mainak Basu	Nil	60	1st cum 1st serve
2		6th	Sport Biomechanics	Program elective II	BM108303BM	Dr. M. Marieswaran	Nil	60	1st cum 1st serve
3		6th	Data Base Management System	Program Elective -III	BM106203BM	Dr. Saurabh Gupta	Nil	60	1st cum 1st serve
4		6th	Machine Learning & Deep Learning in Healthcare & Lifescience	Open elective II	BM106302BM	Dr. Bikesh Kumar Singh	Nil	60	1st cum 1st serve
5		8th	Biofluid Dynamics	Open elective IV	BM108301BM	Dr. Arindam Bit	Nil	60	1st cum 1st serve
6		8th	3 D Printing Technology	Open elective V	BM108303BM	Dr. M. Marieswaran	Nil	60	1st cum 1st serve
7		8th	Healthcare management	Open elective V	BM108304BM	Dr. Sudip Paul	Nil	60	1st cum 1st serve
Bio Technology									
1	Biotechnology	6th	Biopharmaceutical Technology	Program Elelctive 2	BT106203BT	Dr. J. Satya Eswari, Associate Professor	Industrial Biotech	As per Branch Intake	Not Applicable
2		6th	Membrane Technologoy	Pprogram Elective 3	BT106203S	D. D. Vasanth, Associate Professor	Membrane synthesis & Charaterization, application in medical and biotech industry	As per Branch Intake	Not Applicable
3		6th	Intellectual Property Rights	Open Elective 2	BT106302BT	Dr. Chinmaya Mahapatra, Assistant Professor	Nil	Branch intake + 20 students from the other departments	CPI of external student should not be <8.5
4		8th	Bioreactor Design and Analysis	Open Elective 4	BT108304BT	Dr. Pratima Gupta, Professor	Modelling, Bioprocess, Biological rate processes	Branch intake + 20 students from the other departments	CPI of external student should not be <8.5
5		8th	Interactomics	Open Elective 5	BT108305BT	Dr. Dijendra Nath Roy ,Assistant Professor	Nil	Branch intake + 20 students from the other departments	CPI of external student should not be <8.5
Chemical Engineering									
1	Chemical Engineering	6th	Process Equipment Design-II	Program elective-I	CH106201CH	Dr. M.S. Gaikwad	NIL	60	
2			Biochemical Engineering	Program elective-I	CH106202CH	Dr. B. Mazumdar	NIL	60	
3			Fluidization Engineering	Program elective-II	CH106221CH	Dr. P.K. Chaudhari	NIL	60	
4			Colloideal and Interfacial Science and Engineering	Program elective-II	CH106223CH	Dr. Rahul Saha	NIL	60	
5			Non-conventional energy sources	Open elective-I	CH106301CH	Dr. S. N. Victoria	NIL	60	
6		8th	Project Planning Evaluation and Management	Open electiv-I	CH108301CH	Dr. B. Mazumdar/Dr. A. Datta	NIL	60	
7			Solid Waste Management	Open elective-I	CH108351CH	Dr. Chandradhwaj Nayak	NIL	60	
8			Environmental Impact Assessment	Open elective-II	CH108302CH	Dr. J. Anandkumar	NIL	60	
Civil Engineering									
1	Civil Engineering	6th	Advanced Pavement Engineering	Program Elective-I	CV106204CV	Dr. Sunny Deol G Associate Professor	Highway and Railway Engineering	-	Not Applicable
2		6th	Advanced Structural Analysis	Program Elective-I	CV106201CV	Dr. G. D Ramtekakr Professor /Dr. Alfia Bano Associate Professor	Structural Analysis-I & II	-	Not Applicable
3		6th	Prestressed Concrete	Program Elective-II	CV106251CV	Dr. Meena Murmu (Associate Professor)	Mechanics of Solids & Design of Reinforced Concrete Structures	-	Not Applicable
4		6th	Geoenvironment Engineering	Program elective -II	CV106253CV	Dr. Ritesh S. Ingale Assistant Professor	Geotechnical Engineering-I		
5		6th	Transportation Planning and Management	Program Elective-II	CV106252CV	Dr. Sunny Deol G Associate Professor	Highway and Railway Engineering	-	Not Applicable
6		6th	Air & Noise Pollution and Control	Open Elective-I	CV106301CV	Dr. A.V. Ahirwar Associate Professor	Nil	100	CGPA 8.00
7		6th	Construction Management	Open Elective-I	CV106302CV	Dr. S.V. Deo Professor	Project Planning and Management	40	Not Applicable
8		8th	Remote Sensing, GIS & Its applications	Open Elective-I	CV108301CV	Dr. A.D. Prasad Assistant Professor	Nil	100	CGPA 8.00
9		8th	Artificial intelligence and machine learning applications in engineering and technology	Open Elective-I	CV108302CV	Dr. Vikas Vidyarthi Assistant Professor	Nil	100	CGPA 8.00
10		8th	Stability of Slopes and ground improvements	Open Elective-II	CV108351CV	Dr. Sandeep K Chouksey Assistant Professor	Geotechnical Engineering-I/II	100	Not Applicable
Computer Science and Engineering									
1	Computer Science and Engineering	6th	Cloud Computing	Open	CS106301CS	Dr. Madhukrishna Priyadarshini	Nil	Branch Intak +20	CPI>7.5
2		6th	Deep Learning	Program	CS106205CS	Dr. Pradeep Singh	NIL	70	CGPA > 7.5
3		6th	Computer Vision	Program	CS106203CS	Dr. Bunil Kumar Balabantaray	Nil	70	
4		6th	Advanced Algorithm	Program	CS106202CS	Dr. Shailendra Kumar Tripathi	Algorithm Design		
5		6th	Applied Machine Learning	Open	CS106302CS	Dr. Dillip Singh Singh	Nil	Branch Intak +20	CGPA > 7.5
6		8th	Quantum Computing	Open	CS108304CS	Dr. N. K. Nagwani, Professor	Computing Fundamentals	Branch Intak +20	CPI > 7.5
7		8th	Cyber Security & Digital Forensics	Open	CS108307CS	Dr. Nitesh K Bharadwaj, Assistant Professor	Nil	Branch Intak +20	CGPA > 7.5
8		8th	Evolutionary Computing	Open	CS108302CS	Dr.Deepak Singh	Nil	Branch Intak +20	CGPA > 7.5
Computer Applications									
1	Applications	4th	Crptography & Network Security	Program (Elective- I)	CA404202CA	Dr. Mou Dasgupta, Associate Professor	Elementary Number Theory, Computer networks	110	None
2		4th	Soft Computing	Program (Elective- I)	CA404201CA	Dr. Tripti Swarnkar, Professor	NIL	110	None
3		4th	Web Technology- Advance Java	Program (Elective- II)	CA404206CA	Dr. Shyam Sundar, Associate Professor	NIL	110	None

4	Computer /	4th	Internet of Things	Program (Elective- II)	CA404209CA	Dr. Sharbani Purkayastha, Assistant Professor	NIL	110	None
5		4th	Advance Data Mining	Open (Elective- I)	CA404302CA	Dr. Naeem Ahmad, Assistant Professor	NIL	110	None
6		4th	Computer Graphics & Multimedia	Open (Elective- I)	CA404301CA	Dr. Tapan Kumar Sahoo, Assistant Professor	NIL	110	None
Humanities and Social Sciences									
1		6th	Cognitive Neuroscience of Language and Emotion	Open Elective	HS106317HS	Dr. Shashikanta Tarai, Associate Professor	NIL	40	If more than 40 students
2		6th	Industrial Sociology and Social Change	Open Elective	HS106310HS	Dr. Moksha Singh, Associate Professor	Nil	50	NIL
3		6th	A Course on Organizational Behaviour	Open Elective	HS106309HS	Dr. Chetna Sharma Rajput, Assistant Professor	NIL	50	NIL
4		6th	Wellness through Yoga	Open Elective	HS106308HS	Dr. Manju Shukla, Temporary Faculty & Mr. Suraj Nishad, Teaching Assistant	NIL	50	NIL
5		8th	Coexistence based Human Values and Ethics	Open Elective	HS108312HS	Dr. Heena Chawda	NIL	25	NIL
Electrical Engineering									
1	Electrical Engineering	6th	Advance Electric Drives	Program Elective	EL106210EL	Dr. Rajan Kumar, Assistant Professor	Power Electronics (EL104103EL), Electrical Machines-III (EL106103EL)	70	CPI
2		6th	Simulation and Modeling of Electrical Systems	Program Elective	EL106202EL	Dr. Venu Sonti, Assistant Professor	Basic Electrical Engineering (EL101022EL, Power Electronics (EL104103EL)	70	CPI
3		6th	Design of Photovoltaic Systems	Open Elective	EL106301EL	Dr. S Gupta, Professor	Basic Electrical Engineering (EL101022EL, Power Electronics (EL104103EL)	115	CPI
4		6th	Design and integration of optical sensors in Mechatronic systems	Open Elective	EL106305EL	Dr. Ramya Selvaraj, Assistant Professor	NIL	115	CPI
5		6th	Power Converter Design	Program Elective	EL106211EL	Dr. Sachin Jain, Professor	Power Electronics	70	CPI
6		6th	Flexible AC Transmission System	Program Elective	EL106214EL	Dr. Anamika Yadav, Professor	Power Electronics (EL104103EL)	70	CPI
7		8th	Energy Audit, Conservation and Management	Open Elective	EL108303EL	Dr. Saurav Raj, Assistant Professor	Utilization of Electrical Energy (EL10415EL)	115	CPI
8		8th	Mechatronics	Open Elective	EL108306EL	Dr. S.Ghosh, Professor	Basic Electrical Engineering (EL101022EL, PhysicsII (PH101006PH)	115	CPI
Electronics and Communication Engineering									
1	Electronics and Communication Engineering	6th	Machine Learning and Pattern Recognition	Open	EC106301EC	Dr. S. Majumder, Assistant Professor	Mathematics IV	120	CGPA of 8.0
2		6th	Information Theory and Coding	Open	EC106302EC	Dr. S Deshmukh, Associate Professor	Digital Communication	120	CGPA of 8.0
3		8th	Computer Vision	Open	EC108301EC	Dr. T. Meenpal, Associate Professor	Digital Image Processing/Image Processing/ Medical Image Processing	120	CGPA of 8.0
4		8th	Cryptography and Network Security	Open	EC108302EC	Dr. B. Acharya, Associate Professor	NIL	120	CGPA of 8.0
5		6th	Computer Communication Network	Program	EC106202EC	Dr. A S Raghuvanshi, Associate Professor	Computer System Architecture, Digital Communication	120	CGPA of 8.0
6		6th	Semiconductor Device Modeling	Program	EC106208EC	Dr. K K Nigam, Assistant Professor	Microelectronics	120	CGPA of 8.0
7		6th	Soft Computing	Program	EC106205EC	Dr. S Chakraborty, Assistant Professor	Mathematics I,II, III, IV	120	CGPA of 8.0
8		6th	VLSI Technology	Program	EC106207EC	Dr. Ashish Kumar, Assistant Professor	Microelectronics	120	CGPA of 8.0
Information Technology									
1	Information Technology	6th	Cryptography and Network Security	Program	IT106201IT	Dr. Rajesh Doriya, Associate Professor	Discrete Structure	114	NA
2		6th	Cellular Mobile Computing	Program	IT106205IT	Dr. P.K. Mishra, Associate Professor	Computer Networks	114	NA
3		6th	Quantum Computing	Program	IT106206IT	Dr. Kapil Kumar Soni, Assistant Professor	Discrete Structures, Linear Algebra, Probability Theory	114	NA
4		6th	Machine Learning	Open	IT106301IT	Dr. Mridu Sahu, Assistant Professor	Data Mining, DBMS, Data Structure	134	CPI>=8.5 for Other Branches
5		6th	Data Science and Analytics	Open	IT106304IT	Dr. G.K. Verma, Assistant Professor	Data Mining, DBMS, Data Structure	134	CPI>=8.5 for Other Branches
6		8th	Blockchain	Open	IT108301IT	Dr. G.P.Gupta, Associate Professor	Data Structure	134	CPI>=8.5 for Other Branches
7		8th	Cloud Computing	Open	IT108302IT	Dr. C. Jatoth, Assistant Professor	Operating System	134	CPI>=8.5 for Other Branches
8		8th	Deep Learning	Open	IT108306IT	Dr. Suvendu Rup, Associate Professor	Machine Learning	134	CPI>=8.5 for Other Branches
Mechanical Engineering									
1	Mechanical Engineering	6th	Air Conditioning Techniques and system Design	Program Elective-III	ME106201ME	Dr. A.K.Tiwari, Professor (HAG)	Refrigeration and Air Conditioning, Thermodynamics, Heat and Mass Transfer	70	Merit or CPI
2		6th	Operation Research		ME106203ME	Dr. A.R. Singh, Associate Professor	Mathematics	70	Merit or CPI
3		6th	Fatigue Creep and Fracture		ME106202ME	Dr. SDVSS Varma Siruvuri, Asst Professor	MOS-I, MOS-II and Machine Design-I	30	Merit or CPI
4		6th	Additive Manufacturing	Program Elective- IV	ME106401ME	Dr. M.K.Pradhan, Associate Professor	Manufacturing Science	50	Merit or CPI
5		6th	Artificial Intelligence and Machine Learning for Mechanical Engineers		ME106404ME	Dr. Srinivasu G, Associate Professor	Mathematics, Computer Programming	50	Merit or CPI
6		6th	Automobile Engineering		Me106405ME	Dr.S.P.S. Matharu, Professor	Nil	50	Merit or CPI
7		6th	Robotics	Open Elective- II	ME106303ME	Dr. S.Sanyal, Professor (HAG)	Nil	100	Merit or CPI
8		6th	Smart Materials and systems		ME106304ME	Dr. R.K. Sahu, Associate Professor	Nil	100	Merit or CPI
9		8th	Welding Technology	Open Elective- IV	ME108302ME	Dr. H.K.Narang, Associate Professor	Nil	120	Merit or CPI
10		8th	Non- Conventional Energy Resources	Open Elective- V	ME108311ME	Dr. N.Netam, Associate Professor	Nil	80	Merit or CPI
Mining Engineering									
1	Mining Engineering	6th	Advanced Coal Mine Planning	Program Elective-II	MI106201MI	Dr. P. Y. Dhekne, Professor	No		
2			Mine Acquisition & Operationalization	Program Elective-II	MI106202MI	Dr. M. Pradhan, Professor	No		
3			Computer Application in Mining	Program Elective-II(A)	MI106221MI	Dr. R. K. Jade, Associate Professor	No		
4			Advanced Surface Mining	Program Elective-II(A)	MI106222MI	Dr. P. K. Dewangan, Professor	No		
5			Mineral Processing	Open Elective-II	MI106301MI	Prof. B. R. Parate, Associate Professor	No	100	1.Mining Engineering 2.Metallurgical and Materials Engineering
6		8th	Sustainable Engineering	Open Elective-IV	MI108351MI	Dr. R. K. Jade, Associate Professor	No	100	1.Mining Engineering 2.Electrical Engineering 3.Mechanical Engineering 4.Metallurgical and Materials Engineering 5.Chemical Engineering
7			Occupational Health and Safety	Open Elective-V	MI108301MI	Dr. A. K. Dash, Assistant Professor	No	100	1.Mining Engineering 2.Electrical Engineering 3.Metallurgical and Materials Engineering 4.Chemical Engineering 5. Mechanical Engineering
Metallurgical & Material Engineering									
1	1	6th	Fracture mechanics and failure analysis	Open Elective	MM106301MM	Dr Manoj K Chopkar	NONE	80	
2			Tribology of materials		MM106302MM	Dr MK Manoj	NONE	80	
3			Artificial Intelligence in Materials Engineering	Program Elective	MM106201MM	Dr S. Ganguly	Engineering Maths II and III, Physical Metallurgy		No backlogs in previous semesters

