

Indian Institute of Technology Indore
List of elective courses offered for 2022-Autumn Semester

S. No.	Course Code and Title	L-T-P-Credit	Course Coordinator(*) and Course Instructor
Computer Sciences and Engineering			
1	CS 403/603:Machine Learning	2 - 0 - 2 - 3	Dr. Puneet Gupta
2	CS 411/611:Advanced Algorithms #	2 - 0 - 2 - 3	Dr. Ranveer Singh,
3	CS 417/617:Cryptography and Network Security	2 - 1 - 0 - 3	Dr. Bodhisatwa Mazumdar,
4	CS 419/619:Computer Vision	2 - 1 - 0 - 3	Dr. Surya Prakash,
5	CS 427/627:Advanced Computer Networks	2 - 1 - 0 - 3	Dr. Neminath Hubballi,
6	CS 697:PG Seminar Course %	0 - 2 - 0 - 2	Dr. Ranveer Singh,
7	CS 791:MS Thesis (Stage-I) %	0 - 0 - 14 - 7	Dr. Puneet Gupta,
8	CS 797:Ph.D. Seminar Course %	0 - 2 - 0 - 2	Dr. Ranveer Singh,
Electrical Engineering			
9	EE 421/621:MOS Devices & Modeling #	2 - 1 - 0 - 3	Prof. Abhinav Kranti,
10	EE 422/622:Digital Circuit Design #	2 - 1 - 0 - 3	Dr. Santosh K. Vishvakarma,
11	EE 435/635:VLSI Technology #	2 - 1 - 0 - 3	Dr. Mukesh Kumar*, Dr. Shaibal Mukherjee,
12	EE 441/641:Advanced Signal Processing #	2 - 1 - 0 - 3	Dr. Vivek Kanhangad,
13	EE 483/683:Error-Correcting Codes	2 - 1 - 0 - 3	Dr. Swaminathan Ramabadrn,
14	EE 603:Optimization Techniques #	2 - 1 - 0 - 3	Prof. Vimal Bhatia,
15	EE 643:Detection and Estimation Theory #	2 - 1 - 0 - 3	Dr. Prabhat Kumar Upadhyay,
16	EE 651:Digital Circuit Design Laboratory #	0 - 0 - 4 - 2	Dr. Santosh K. Vishvakarma,
17	EE 653:Discrete Device Fabrication and Characterization Lab #	0 - 1 - 4 - 3	Dr. Mukesh Kumar, Dr. Shaibal Mukherjee, Dr. Vipul Singh*
18	EE 661:Microwave Engineering	2 - 1 - 0 - 3	Dr. Saptarshi Ghosh,
19	EE 697:PG Seminar Course %	0 - 2 - 0 - 2	Dr. Trapti Jain,
20	EE 701:Time-Frequency Analysis #	2 - 1 - 0 - 3	Prof. Ram Bilas Pachori,
21	EE 791:MS Thesis (Stage-I) %	0 - 0 - 14 - 7	hodee,
22	EE 797:Ph.D. Seminar Course %	0 - 2 - 0 - 2	Dr. Swaminathan Ramabadrn,
Electric Vehicle and Intelligent Transport Systems			
23	EV 401/601:Vehicle Dynamics #	2 - 1 - 0 - 3	Dr. Shailesh Kundalwal,
24	EV 407/607:Energy Storage in Electric Vehicles	2 - 0 - 2 - 3	Dr. Rupesh S. Devan*, Dr. Sunil Kumar,
25	EV 408/608:Hybrid Electric Vehicles #	2 - 1 - 0 - 3	Dr. Devendra Deshmukh* Dr. Amod C. Umarikar
26	EV 603:Autotronics #	2 - 0 - 2 - 3	Dr. I. A. Palani,
27	EV 605:Electric Machines and Drives #	2 - 0 - 2 - 3	Dr. Trapti Jain* Dr. Vijay A. S.,
Mechanical Engineering			
28	ME 407/607:Biofluid Mechanics	2 - 0 - 2 - 3	Dr. S. Dhinakaran* Dr. Dan Sathiaraj,
29	ME 416/616:Non-conventional Energy Sources #	2 - 1 - 0 - 3	Dr. S Janakiraman,
30	ME 436/736:Finite Element Methods (FEM) #	2 - 0 - 2 - 3	Dr. Indrasen Singh,
31	ME 438/738:Composite Materials #	2 - 1 - 0 - 3	Dr. Dan Sathiaraj,
32	ME 440/640:Smart Materials and Structures	2 - 1 - 0 - 3	Dr. Satyanarayan Patel,
33	ME 446/646:Dynamics and Control Systems #	2 - 1 - 0 - 3	Dr. Pavan Kumar Kankar,
34	ME 451/751:Theory of Advanced Machining Processes #	2 - 0 - 2 - 3	Prof. Neelesh K. Jain,
35	ME 459/659:Micro and Precision Manufacturing #	2 - 0 - 2 - 3	Dr. Satyajit Chatterjee,
36	ME 479/679:Additive Manufacturing #	2 - 0 - 2 - 3	Dr. Yuvraj Kumar Madhukar,

37	ME 602:Advanced Heat Transfer #	3 - 1 - 0 - 4	Dr. Devendra Deshmukh*, Dr. Santosh Kumar Sahu, Dr. S. Dhinakaran,
38	ME 603:Advanced Fluid Dynamics #	2 - 1 - 0 - 3	Dr. Harekrishna Yadav*, Dr. Ankur Miglani,
39	ME 609:Thermal Energy Storage #	3 - 1 - 0 - 4	Dr. Satyanarayan Patel,
40	ME 647:Dynamics and Control Systems Lab #	0 - 0 - 3 - 1.5	Dr. Pavan Kumar Kankar,
41	ME 657:Mechatronics and Metrology #	3 - 0 - 2 - 4	Dr. I. A. Palani,
42	ME 675/MA 675:Probability and Statistical Methods #	2 - 0 - 2 - 3	Dr. Mohd. Arshad,
43	ME 677:Advanced Thermodynamics #	2 - 0 - 2 - 3	Dr. Ritunesh Kumar,
44	ME 681:Design and Analysis of Experiments #	2 - 0 - 2 - 3	Dr. Girish Verma,
45	ME 697:PG Seminar Course %	0 - 2 - 0 - 2	Dr. Dan Sathiaraj*, Dr. Sandeep Singh,
46	ME 730:Theory of Elasticity #	2 - 1 - 0 - 3	Dr. Krishna Mohan Kumar*, Dr. Sandeep Singh,
47	ME 791:MS Thesis (Stage-I) %	0 - 0 - 14 - 7	Dr. Harekrishna Yadav*, Dr. Krishna Mohan Kumar,
48	ME 797:Ph.D. Seminar Course %	0 - 2 - 0 - 2	Dr. Satyanarayan Patel,
Biosciences & Biomedical Engineering			
49	BSE 601:Advanced Molecular Biology	2 - 1 - 0 - 3	Dr. Prashant Kodgire
50	BSE 606:Molecular Virology and Viral Pathogenesis	2 - 1 - 0 - 3	Dr. Hem Chandra Jha
51	BSE 611:Biochemistry #	2 - 0 - 6 - 5	Dr. Kiran Bala*, Dr. Mirza Saqib Baig, Dr. Sunil Kumar Boda,
52	BSE 618:Bioinformatics #	2 - 0 - 2 - 3	Dr. Parimal Kar
53	BSE 621:Cell and Molecular Biology #	2 - 0 - 0 - 2	Dr. Mirza Saqib Baig
54	BSE 623:Plant and Animal Biotechnology #	2 - 0 - 4 - 4	Dr. Amit Kumar* Prof. Avinash Sonawane,
55	BSE 625:Emerging Technologies #	2 - 1 - 0 - 3	Dr. Abhijeet Joshi* Dr. Amit Kumar, Dr. Prashant Kodgire, Dr. Sharad Gupta,
56	BSE 627:Research Methodology and Scientific Communication Skills #	0 - 0 - 2 - 1	Dr. Prashant Kodgire* Dr. Kiran Bala,
57	BSE 629:Genetics #	2 - 0 - 0 - 2	Prof. Avinash Sonawane* Dr. Hem Chandra Jha,
58	BSE 631:Bio-entrepreneurship IPR, Biosafety and Bioethics	2 - 1 - 0 - 3	Dr. Sharad Gupta* Dr. Abhijit Ghosh, Dr. Hem Chandra Jha, Dr. Kiran Bala, Prof. Ganti S. Murthy,
59	BSE 633:Basics of Physics, Chemistry and Mathematics #	2 - 0 - 0 - 2	Dr. Parimal Kar* Dr. Sharad Gupta,
60	BSE 651:Biochemistry Lab	0 - 0 - 4 - 2	Dr. Kiran Bala* Dr. Mirza Saqib Baig, Dr. Sunil Kumar Boda,
61	BSE 797:Ph.D. Seminar Course %	0 - 2 - 0 - 2	Dr. Prashant Kodgire Prof. Ganti S. Murthy,
Chemistry			
62	CH 603:Quantum Chemistry #	2 - 1 - 0 - 3	Dr. Satya S. Bulusu
63	CH 605:Symmetry and Group Theory #	2 - 1 - 0 - 3	Dr. Anjan Chakraborty
64	CH 625:Stereochemistry, Pericyclic and Photochemistry #	2 - 1 - 0 - 3	Dr. Sampak Samanta* Dr. Umesh Achyut Rao Kshirsagar,
65	CH 645:Organometallic Chemistry #	2 - 1 - 0 - 3	Dr. Sanjay Singh* Dr. Dipak Kumar Roy,
66	CH 647:Coordination Chemistry #	2 - 1 - 0 - 3	Dr. Abhinav Raghuvanshi* Dr. Shaikh M Mobin,
67	CH 649:Synthetic and Mechanistic Aspects of Organic Chemistry #	2 - 1 - 0 - 3	Dr. Chelvam Venkatesh* Dr. Selvakumar Sermadurai,
68	CH 651:Chemistry Lab-I #	0 - 0 - 6 - 3	Dr. Selvakumar Sermadurai* Dr. Abhinav Raghuvanshi, Dr. Tridib Kumar Sarma,

69	CH 705:Materials Chemistry	2 - 1 - 0 - 3	Dr. Tridib Kumar Sarma*, Dr. Tushar Kanti Mukherjee,
70	CH 709:Advanced Bioinorganic Chemistry	2 - 1 - 0 - 3	Prof. Suman Mukhopadhyay*, Dr. Amrendra Kumar Singh,
71	CH 711:Bio-Organic and Medicinal Chemistry	2 - 1 - 0 - 3	Dr. Apurba K Das*, Dr. Umesh Achyuttrao Kshirsagar,
72	CH 797:Ph.D. Seminar Course	0 - 2 - 0 - 2	Dr. Tushar Kanti Mukherjee*, Dr. Apurba K Das, Dr. Dipak Kumar Roy,
Physics			
73	PH 601:Electrodynamics #	2 - 1 - 0 - 3	Dr. Amit Shukla*, Dr. Siddharth S. Malu,
74	PH 603:Classical Mechanics #	2 - 1 - 0 - 3	Dr. Dipankar Das, Dr. Srimanta Pakhira*,
75	PH 611:Fundamentals of quantum mechanics #	3 - 1 - 0 - 4	hodphysics,
76	PH 612:Dualities in field theory and gravity	2 - 1 - 0 - 3	hodphysics,
77	PH 651:Mathematical Methods #	2 - 1 - 0 - 3	Dr. Ankhi Roy, Dr. Dipankar Das*,
78	PH 691:Physics Laboratory-I #	0 - 0 - 8 - 4	Dr. Rajesh Kumar, Dr. Somaditya Sen*,
79	PH 721:Advanced Materials	2 - 1 - 0 - 3	Dr. Pankaj R. Sagdeo, Prof. Krushna Mavani*,
80	PH 725:Characterization of Surfaces and Interfaces of Materials	2 - 0 - 2 - 3	Dr. Sudeshna Chattopadhyay,
81	PH 745:Laser Physics	2 - 1 - 0 - 3	Dr. Rajesh Kumar,
82	PH 761:Theoretical Particle Physics	2 - 1 - 0 - 3	Dr. Manavendra Mahato, Prof. Subhendu Rakshit*,
83	PH 765:Experimental Techniques in High Energy Physics	2 - 1 - 0 - 3	Dr. Raghunath Sahoo,
84	PH 781:Theory of Complex Systems	2 - 0 - 2 - 3	Prof. Sarika Jalan,
85	PH 797:Ph.D. Seminar Course %	0 - 2 - 0 - 2	hodphysics,
Mathematics			
86	MA 603:Topology I	3 - 1 - 0 - 4	Dr. Swadesh Kumar Sahoo,
87	MA 611:Analysis-I #	3 - 1 - 0 - 4	Dr. Niraj K. Shukla,
88	MA 621:Ordinary Differential Equations #	2 - 1 - 0 - 3	Dr. Antony Vijesh,
89	MA 631:Functional Analysis	3 - 1 - 0 - 4	Dr. Vijay Kumar Sohani,
90	MA 641:Linear Algebra #	3 - 1 - 0 - 4	Dr. Sk. Safique Ahmed,
91	MA 643:Algebra II	2 - 1 - 0 - 3	Dr. Anand Prakash,
92	MA 651:Numerical Analysis	2 - 1 - 0 - 3	Dr. Vinay Kumar Gupta, Dr. Antony Vijesh, Dr. Mohd. Arshad*, Dr. Sanjeev Singh,
93	MA 653:Ramanujan Mathematics	2 - 1 - 0 - 3	Dr. Bibekananda Maji,
94	MA 671/ME 671:Operations Research	2 - 0 - 2 - 3	Dr. M. Tanveer,
95	MA 673:Fundamentals of Discrete Mathematics #	2 - 1 - 0 - 3	Dr. Bapan Ghosh, Dr. Charitha Cherugondi*, Dr. Md. Aquil Khan, Dr. Santanu Manna,
96	ME 675/MA 675:Probability and Statistical Methods #	2 - 0 - 2 - 3	Dr. Mohd. Arshad,
97	MA 707:Special Functions	2 - 1 - 0 - 3	Dr. Niraj K. Shukla, Dr. Swadesh Kumar Sahoo*,
98	MA 797:Ph.D. Seminar Course %	0 - 2 - 0 - 2	hodmaths,
Humanities and Social Sciences			
99	HS 410/610:Media Studies	2 - 1 - 0 - 3	Dr. Akshaya Kumar,
100	HS 418/618:Sustainability Studies	3 - 0 - 0 - 3	Dr. Nirmala Menon*, Dr. Pritee Sharma,
101	HS 455/655:Digital Humanities	2 - 0 - 2 - 3	Dr. Nirmala Menon,
102	HS 600:Data Analysis and Technical Writing	2 - 1 - 0 - 3	Dr. Nirmala Menon, Dr. Pritee Sharma*,
103	HS 605:Social and Political Philosophy	2 - 1 - 0 - 3	Dr. C. Upendra,
104	HS 616:Advanced Sociological Theory	2 - 1 - 0 - 3	Dr. Akshaya Kumar*, Dr. Ashok Kumar Mocherla, Dr. C. Upendra,

105	HS 618:Sustainability Studies	3 - 0 - 0 - 3	Dr. Nirmala Menon*, Dr. Pritee Sharma,
106	HS 624:Econometrics-I	2 - 1 - 0 - 3	Dr. Kalandi Charan Pradhan*, Dr. Ruchi Sharma,
107	HS 641:English Communication Skills @	2 - 0 - 2 - 0	Dr. Ananya Ghoshal,
108	HS 671:Human Factors and Higher Cognitive Processes	2 - 0 - 2 - 3	Dr.Kedarmal Verma, Dr. Sanjram Premjit Khanganba*,
109	HS 797:Ph.D. Seminar Course %	0 - 2 - 0 - 2	Dr. Nirmala Menon,
110	IHS 422/622:Development Economics	2 - 1 - 0 - 3	Dr. Kalandi Charan Pradhan, Dr. Mohanasundari Thangavel*,
Astronomy, Astrophysics and Space Engineering			
111	AA 403/603:Space Engineering System #	2 - 0 - 2 - 3	Dr. Abhirup Datta*, Dr. Rajkumar Hajra,
112	AA 405/605:Detectors and Sensors for Space Observations #	2 - 0 - 2 - 3	Dr. Abhirup Datta, Dr. Manoneeta Chakraborty*,
113	AA 406/606:Random Signals and Applied Kalman Filtering	2 - 1 - 0 - 3	Dr. Unmesh Govind*, Dr. Hari B. Hablani,
114	AA 407/607:Remote sensing for Atmospheric and Space Sciences #	2 - 0 - 2 - 3	Dr. Saurabh Das*, Dr. Unmesh Govind,
115	AA 471N/671N:Relativity and Cosmology	2 - 1 - 0 - 3	Dr. Siddharth S. Malu, Dr. Suman Majumdar*,
116	AA 478/678:Space Weather #	2 - 1 - 0 - 3	Dr. Bhargav Vaidya, Dr. Rajkumar Hajra*,
117	AA 601:Astrophysical Fluids and Plasma #	2 - 1 - 0 - 3	Dr. Amit Shukla, Dr. Bhargav Vaidya*,
118	AA 651:Astronomy Laboratory-I #	0 - 0 - 8 - 4	Dr. Manoneeta Chakraborty, Dr. Suman Majumdar*,
119	AA 797:Ph.D. Seminar Course %	0 - 2 - 0 - 2	Dr. Amit Shukla,
Metallurgy Engineering and Materials Science			
120	MM 402/602:Design and Selection of Materials	2 - 1 - 0 - 3	Dr. Dudekula Althaf Basha*, Dr. Jayaprakash Murugesan,
121	MM 447/647:Metallurgical Thermodynamics and Phase Transformations #	2 - 1 - 0 - 3	Dr. Dudekula Althaf Basha*, Dr. Ram Sajeevan Maurya,
122	MM 457/657:Advances in Energy Storage Materials	2 - 1 - 0 - 3	Dr. Rupesh S. Devan,
123	MM 475/675:Advanced Fracture Mechanics	2 - 1 - 0 - 3	Dr. Jayaprakash Murugesan,
124	MM 603:Applied Surface Science #	2 - 1 - 0 - 3	Dr. Sunil Kumar,
125	MM 641:Advanced Physical Metallurgy #	2 - 0 - 2 - 3	Dr. Abhijit Ghosh*, Dr. Vinod Kumar,
126	MM 643:Advanced Mechanical Metallurgy #	2 - 0 - 2 - 3	Dr. Hemant Borkar,
127	MM 645:Multiphysics Modelling #	2 - 0 - 2 - 3	Dr. Eswara Prasad Korimilli,
128	MM 661:Materials Science and Engineering #	2 - 1 - 0 - 3	Dr. Hemant Borkar, Dr. Mrigendra Dubey*,
129	MM 672:Visit to Industrial/Research organizations	0 - 0 - 4 - 0	Dr. Dharendra Kumar Rai, Dr. Eswara Prasad Korimilli, Dr. Hemant Borkar*,
130	MSE 605:Computational Techniques in Materials Engineering #	3 - 1 - 0 - 4	Dr. Abhijit Ghosh, Dr. Sumanta Samal*,
131	MSE 607:Materials and Devices #	2 - 1 - 2 - 4	Dr. Parasharam M. Shirage,
132	MSE 797:Ph.D. Seminar Course	0 - 2 - 0 - 2	Dr. Eswara Prasad Korimilli*, Dr. Sunil Kumar,
Civil Engineering			
133	CE 412/612:Sustainable Construction	2 - 1 - 0 - 3	Prof. Sandeep Chaudhary,
134	CE 797:Ph.D. Seminar Course %	0 - 2 - 0 - 2	cedpgc

Notes:

@ PP-Pass/ NP-Not pass (non credit compulsory course)

% Compussory Course

Core course of MSc/ MTech/ MS (Research) programs.

If PhD student wants to credit these courses, provided he/she has not studied these course in their master's program, then permission from the Course Coordinator and DPGC, Convener of their discipline is required on his/her Course Registration Form.