



Indian Institute of Technology Indore

Minutes of the 42<sup>nd</sup> meeting of the Senate held on 17 April 2024 (Wednesday) at 15:00 hrs. at Maitreyi Seminar Hall, IIT Indore.

Following members attended the meeting:

Chairperson		
1	Prof. Suhas S. Joshi	Director, IIT Indore
External Experts		
2	Dr. Shankar V. Nakhe	Director, RRCAT
Deans		
3	Prof. Vipul Singh	Dean, Academic Affairs
4	Prof. Sandeep Chaudhary (present online)	Dean, Administration
5	Prof. Manish Kumar Goyal (present online)	Dean, Infrastructure Development
6	Prof. I. A. Palani	Dean, Research and Development
Head of Departments		
7	Dr. Ranveer Singh	HoD, Computer Science and Engineering
8	Prof. Vivek Kanhangad	HoD, Electrical Engineering
9	Prof. Shanmugam Dhinakaran	HoD, Mechanical Engineering
10	Dr. Ajay Kumar Kushwaha	HoD, Metallurgical Engineering and Materials Science
11	Prof. Abhirup Datta	HoD, Astronomy, Astrophysics and Space Engineering
12	Prof. Preeti A. Bhobe	HoD, Physics
13	Prof. Ruchi Sharma (present online)	HoD, Humanities and Social Sciences
Professors		
14	Prof. Neelesh Kumar Jain	Mechanical Engineering
15	Prof. Abhinav Kranti (present online)	Electrical Engineering
16	Prof. Sarika Jalan (present online)	Physics
17	Prof. Sandeep Chaudhary (present online)	Civil Engineering
18	Prof. Santosh Kumar Vishvakarma	Electrical Engineering
19	Prof. Vipul Singh	Electrical Engineering
20	Prof. Manish Kumar Goyal (present online)	Civil Engineering



21	Prof. I. A. Palani	Mechanical Engineering
22	Prof. Bhupesh Kumar Lad (present online)	Mechanical Engineering
23	Prof. Ritunesh Kumar	Mechanical Engineering
24	Prof. Dhinakaran Shanmugam	Mechanical Engineering
25	Prof. Aruna Tiwari (present online)	Computer Science and Engineering
26	Prof. Abhirup Datta	Astronomy, Astrophysics and Space Engineering
27	Prof. Prashant Kodgire (present online)	Biosciences and Biomedical Engineering
28	Prof. Sk. Safique Ahmad	Mathematics
29	Prof. Apurba Kumar Das (present online)	Chemistry
30	Prof. Nirmala Menon (present online)	Humanities and Social Sciences
31	Prof. Ruchi Sharma (present online)	Humanities and Social Sciences
32	Prof. Preeti Anand Bhohe	Physics
33	Prof. Rajesh Kumar	Physics
34	Prof. Parasharam M. Shirage	Metallurgical Engineering and Materials Science
35	Prof. Amod C. Umarikar (present online)	Electrical Engineering
36	Prof. Vivek Kanhangad	Electrical Engineering
37	Prof. Pankaj Ramesh Sagdeo	Physics
38	Prof. Ankhi Roy	Physics
39	Prof. Mobin Shaikh	Chemistry
40	Prof. Chelvam Venkatesh (present online)	Chemistry
41	Prof. Rupesh Shivaji Devan	Metallurgical Engineering and Materials Science
42	Prof. Santosh Sattappa Hosmani	Metallurgical Engineering and Materials Science
43	Prof. Antony Vijesh Villavarayan	Mathematics
44	Prof. Satyajit Chatterjee	Mechanical Engineering
45	Prof. Kazi Sabiruddin	Mechanical Engineering
46	Prof. Pavan Kumar Kankar (present online)	Mechanical Engineering
<b>Other Authorities</b>		
47	Dr. Jayaprakash Murugesan (present online)	Chief Warden
48	Dr. Sharad Gupta	Convener, Health Center Advisor Committee
<b>Special Invitees</b>		
49	Mr. Neeraj Kumar	Assistant Registrar, Academic Affairs
50	Mr. Tapesch Parihar	Section Officer, Academic Office



Secretary		
51	Mr. S. P. Hota	Registrar, IIT Indore
Leave of absence		
52	Prof. Himanshu Rai	Director, IIM Indore
53	Prof. Abhiram G. Ranade	Professor, Department of Computer Science and Engineering, IIT Bombay
54	Prof. Avinash Sonawane	Dean, International Relation
55	Prof. Srivathsan Vasudevan	Dean, Student Affairs
56	Prof. Suman Mukhopadhyay	Dean, Alumni and Corporate Relations
57	Prof. Abhishek Srivastava	Dean, Faculty Affairs
58	Prof. Devendra L. Deshmukh	Dean, Educational Outreach
59	Dr. Abhishek Rajput	HoD, Civil Engineering
60	Prof. Amit Kumar	HoD, Biosciences and Biomedical Engineering
61	Prof. Tushar Kanti Mukherjee	HoD, Chemistry
62	Dr. Niraj Kumar Shukla	HoD, Mathematics
63	Prof. Narendra S. Choudhary	Computer Science and Engineering
64	Prof. Anand Parey	Mechanical Engineering
65	Prof. Ram Bilas Pachori	Electrical Engineering
66	Prof. Vimal Bhatia	Electrical Engineering
67	Prof. Rajneesh Misra	Chemistry
68	Prof. Suman Mukhopadhyay	Chemistry
69	Prof. Subhendu Rakshit	Physics
70	Prof. Krushna R. Mavani	Physics
71	Prof. Avinash Sonawane	Biosciences and Biomedical Engineering
72	Prof. G. S. Murthy	Biosciences and Biomedical Engineering
73	Prof. Shaibal Mukherjee	Electrical Engineering
74	Prof. Prabhat Kumar Upadhyay	Electrical Engineering
75	Prof. Trapti Jain	Electrical Engineering
76	Prof. Mukesh Kumar	Electrical Engineering
77	Prof. Neelima Devarakonda Satyam	Civil Engineering
78	Prof. Santosh Kumar Sahu	Mechanical Engineering
79	Prof. Abhishek Srivastava	Computer Science and Engineering
80	Prof. Kapil Ahuja	Computer Science and Engineering
81	Prof. Amit Kumar	Biosciences and Biomedical Engineering
82	Prof. Sampak Samanta	Chemistry
83	Prof. Sanjay Kumar Singh	Chemistry
84	Prof. Biswarup Pathak	Chemistry
85	Prof. Pritee Sharma	Humanities and Social Sciences
86	Prof. Sudeshna Chattopadhyay	Physics
87	Prof. Swadesh Kumar Sahoo	Mathematics



88	Prof. Raghunath Sahoo	Physics
89	Prof. Srivathsan Vasudevan	Electrical Engineering
90	Prof. Devendra L. Deshmukh	Mechanical Engineering
91	Prof. Somaditya Sen	Physics
92	Prof. Tushar Kanti Mukherjee	Chemistry
93	Prof. Anjan Chakraborty	Chemistry
94	Prof. Satya Silendra Bulusu	Chemistry
95	Prof. Kiran Bala	Biosciences and Biomedical Engineering
96	Prof. Mirza Saqib Baig	Biosciences and Biomedical Engineering
97	Prof. Anirban Sengupta	Computer Science and Engineering
98	Prof. Neminath Hubballi	Computer Science and Engineering
99	Prof. Niraj Kumar Shukla	Mathematics
100	Dr. Anand Petare	Workshop Superintendent, Central Workshop
101	General Secretary, Student Gymkhana	Ex-officio
102	Academic Secretary, Student Gymkhana	Ex-officio

**ITEM 42.1: Welcome and Opening remarks by the Chairperson, Senate.**

The Chairperson, Senate welcomed all the members to the meeting. He announced that a Memorandum of Understanding (MoU) has been signed between IIT Indore and DAVV Indore with the Taipei Economic and Cultural Centre (TECC), Taiwan, on April 3, 2024 for the establishment of Taiwan Education Centre. This is the first Taiwan Education Centre established in Madhya Pradesh, India. Through this Education Centre, the Education Division of TECC will facilitate dissemination of knowledge and teaching of Mandarin Language. This center shall liaison between IIT Indore and DAVV with Taiwan higher education institutes and industries to build-up academic and research collaborations.

**ITEM 42.2: Confirmation of the minutes of the 41<sup>st</sup> meeting of Senate held on 28 March 2024.**

The Senate confirmed the final minutes of its 41<sup>st</sup> meeting of Senate held on 28 March 2024 after incorporating the appropriate suggestions received from the Senate members.

**ITEM 42.3: Action Taken Report (ATR) on minutes of 41<sup>st</sup> meeting of Senate held on 28 March 2024.**

The Senate noted the actions taken on the decisions of the 41<sup>st</sup> meeting of Senate held on 28 March 2024.



**ITEM 42.4: Syllabi of courses for B.Tech. 2<sup>nd</sup> and 3<sup>rd</sup> year of 'Mechanical Engineering' w.r.t. the NEP guidelines.**

HoD, Mechanical Engineering presented the course structure for B.Tech. 2<sup>nd</sup> year and 3<sup>rd</sup> year of 'Mechanical Engineering' w.r.t. the NEP guidelines. Thereafter, DUGC, Mechanical Engineering presented the detailed syllabi of the courses. However, The Senate discussed the syllabi of 2<sup>nd</sup> year only and the remaining syllabi will be discussed in the coming Senate meeting.

After the discussion, the Senate resolved the following w.r.t. the courses of 2<sup>nd</sup> year (3<sup>rd</sup> semester and 4<sup>th</sup> semester) which are as given below:

Course Code	Course Name	Weekly Contact Hours L-T-P	Total Credits	Senate remarks:
<b>2<sup>nd</sup> Year (Semester-3)</b>				
ZZ xxx	Course-I for Minor Program	x-x-x	3	-
MA 205	Complex Analysis	3-1-0-2 (1/2 semester)	2	Already approved. (It was an existing course as MA-203: Complex Analysis and Differential Equations-II (3-1-0-4). Now, the course has been split into two half semester courses as MA 205: Complex Analysis and MA 207: Differential Equations-II.)
MA 207	Differential Equations-II	3-1-0-2 (1/2 semester)	2	
ME 207	Fluid Mechanics	2-1-0	3	Approved.
ME 209	Materials Science and Engineering	2-1-0 (Half-Sem)	1.5	Approved with remarks to make the syllabus concise.
ME 211	Principles of Industrial Engineering	2-1-0	3	Approved. (As per the comments of Chairperson, Senate, the L-T-P-C was revised from 2-0-0-2 to 2-1-0-3)
ME 213	Solid Mechanics	2-1-0	3	Approved.



ME 215	Thermodynamics	2-1-0	3	Approved.
ME 253	Solid Mechanics Lab	0-0-2	1	Approved.
ME 2XX	Department Elective-I	X-X-X	3	
			21.5/24.5	
<b>2<sup>nd</sup> Year (Semester-4)</b>				
ZZ xxx	Course-II for Minor Program	x-x-x	3	-
MA 204N	Numerical Methods	2-0-2	3	Already approved.
ME 210	Fluid Machinery	2-0-0	2	Approved.
ME 212	Strength of Materials	2-1-0	3	Approved.
ME 208	Theory of Manufacturing Processes	2-1-0	3	Approved.  (As per the comments of Chairperson, Senate, the L-T-P- C was revised from 2-0-0-2 to 2-1-0-3)
ME 214	Introduction to Additive Manufacturing	2-1-0 (Half- Sem)	1.5	The Senate suggested to revise the course content and circulate the same to all faculty members and put up it again after the recommendation of SUGC.  <b>Not approved.</b>
ME 256	Computer Aided Machine Drawing	1-0-2	2	Approved with suggestion to shift last course module of the course content 'Computer aided drawing and drafting' as third module.
ME 252	Fluid Mechanics and Machinery Lab	0-0-2	1	Approved.



ME 258N	Manufacturing Processes Lab	0-0-2	1	Approved.
ME 2XX	Department Elective-II	X-X-X	3	-
ZZ 2XX	Institute Open Elective-I	X-X-X	3	-
			22.5/25.5	
<b>Elective Courses (Department Elective-I)</b>				
ME 217	Industrial Data Analytics	2-1-0	3	Approved.
ME 219	Energy Storage Systems	2-1-0 (Half-Sem)	1.5	Approved.
ME 221	Optical Measurement Techniques in Fluid Mechanics	2-1-0 (Half-Sem)	1.5	Approved.
ME 223	Design Thinking for Mechanical Engineers	2-1-0 (Half-Sem)	1.5	Approved with revised course title 'Design Thinking for Mechanical Engineers' to 'Design Thinking'.
ME 225	Fundamentals of Vibrations	2-1-0 (Half-Sem)	1.5	Approved with remarks to interchange the textbooks serial no. -2 with reference book serial no. 3.
ME 227	Plastic Parts Manufacturing	2-0-2 (Half-Sem)	1.5	Approved.
<b>Elective Courses (Department Elective-II)</b>				
ME 216	Thermal Systems and Applications	2-1-0 (Half-Sem)	1.5	Approved with (i) revised the course module title 'Thermal systems in Everyday Applications' to 'Thermal Systems in Common Applications'.



				<p>(ii) The list of relevant textbooks and reference books should be 3 to 4.</p> <p>(As per the comments of Chairperson, Senate, the title has been revised from 'Thermal Systems and Everyday Applications' to 'Thermal Systems and Applications'.)</p>
ME 218	Quality Management	2-1-0 (Half-Sem)	1.5	<p>Approved with remarks (i) to remove the reference book serial no-5 and correct the name of the author of reference book serial no.-4.</p> <p>(ii) Use year of publication after the book title</p>
ME 220	Fundamentals of Acoustics	2-1-0 (Half-Sem)	1.5	Approved.
ME 222	Introduction to Experimental Aerodynamics	2-1-0 (Half-Sem)	1.5	Approved.
ME 224	Fundamentals of Microscale Flows	2-1-0 (Half-Sem)	1.5	Approved.
ME 226	Introduction to Smart Materials	2-1-0 (Half-Sem)	1.5	<p>The Senate suggested to revise the course content.</p> <p><b>Not approved.</b></p>
ME 228	High Strain rate Forming Process	2-1-0 (Half-Sem)	1.5	<p>Approved with (i) revised the course title 'High Strain rate Forming Process' to 'High Energy rate Forming Process'.</p> <p>(ii) Add application bullet in the course content.</p> <p>(iii) Remove the textbook serial no.-2 and reference book serial no.-5 from the syllabus and add</p>



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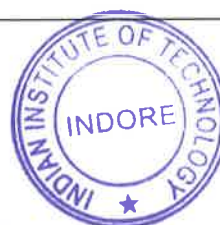
			one Handbook as reference book.  (As per the comments of Chairperson, Senate the title was changed from 'Analysis of Forming Processes' to High Strain rate Forming Process'.)
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**Agenda: 42.5: Syllabi of courses for B.Tech. 2nd year of 'Metallurgical Engineering and Materials Science' w.r.t. the NEP guidelines.**

HoD and DUGC Convenor, Metallurgical Engineering and Materials Science presented the course structure and the detailed syllabi for B.Tech. 2nd year 'Metallurgical Engineering and Materials Science' w.r.t. the NEP guidelines.

After the discussion, the Senate resolved the following w.r.t. the courses which are as given below:

Course Code	Course Name	Weekly Contact Hours L-T-P	Total Credits	Senate remarks:
<b>2<sup>nd</sup> Year (Semester-3)</b>				
ZZ xxx	Course-I for Minor Program	x-x-x	3	-
MA 205	Complex Analysis	3-1-0-2 (1/2 semester)	2	Already approved.  (It was an existing course as MA-203: Complex Analysis and Differential Equations-II (3-1-0-4). Now, the course has been split into two half semester courses as MA 205: Complex Analysis and MA 207: Differential Equations-II.)
MA 207	Differential Equations-II	3-1-0-2 (1/2 semester)	2	
MM 209	Structure of Materials	2-1-0 (Half Semester)	1.5	Approved with (i) revise the 3 <sup>rd</sup> bullet of the course content



				as 'Introduction to Symmetry elements and points groups. (ii) Rewrite/proper arrange the course content. (iii) Add one more textbook.
MM 211	Physics of Materials	2-1-0 (Half Semester)	1.5	Approved with remarks to add one more textbook in the syllabus.
MM 213	Principles of Extractive Metallurgy	2-1-0 (Half Semester)	1.5	Approved.
MM 215	Mechanical Behaviour of Materials	2-1-0	3	Approved.
MM 217	Physical Metallurgy	2-1-0	3	The Senate suggested to revise the course content. <b>Not approved.</b>
MM 219	Thermodynamics of Materials	2-1-0	3	The Senate suggested to revise the course content. <b>Not approved.</b>
MM 257	Physical Metallurgy Lab	0-0-2	1	Approved.
MM 255	Mechanical Behaviour of Materials Lab	0-0-2	1	Approved with revision of the objectives of the course.
MM 2XX	Department Elective - I	2-1-0	3	-
			22.5/25.5	
<b>2<sup>nd</sup> Year (Semester-4)</b>				
ZZ xxx	Course-II for Minor Program	x-x-x	3	-



MA 204N	Numerical Methods	2-0-2	3	Already approved.
MM 210	Phase Transformation and Heat Treatment	2-1-0	3	The Senate suggested to revise the course content.  <b>Not approved.</b>
MM 208	Theory of Metal Forming	2-1-0	3	Approved.
MM 212	Transport Phenomena	2-1-0	3	Approved.  (As per the comments of Chairperson, Senate, the half semester course of 2-1-0-1.5 credit changed to full semester course of 2-1-0-3 credits.)
MM 214	Materials Characterization	2-0-2	3	Approved with remarks to add a separate module for list of representative experiments instead of mentioning in each module of the course content.
MM 216	Mineral Processing and Extractive Metallurgy Lab	0-0-2	1	Approved.
MM 258N	Metal Forming Lab	0-0-2	1	Approved.
MM 2XX	Department Elective - II	2-1-0	3	-
ZZ XXX	Institute open elective - I	2-1-0	3	-
			23/26	
<b>Elective Courses (Department Elective-I)</b>				
MM 221	Finite Element Simulations in Materials	2-1-0	1.5	Approved with revised the course title 'Finite Element Simulations in Materials' to ' <b>Finite Element Simulations in Materials Engineering</b> '.



MM 223	Statistical Mechanics for Materials Science	2-1-0	1.5	Approved.
MM 225	Diffusion in Solids	2-1-0	3	The Senate suggested to revise the course content.  <b>Not approved.</b>
MM 227	Crystal Growth and Thin Films	2-1-0	3	Approved.
<b>Elective Courses (Department Elective-II)</b>				
MM 218	Materials Economics and Sustainability	2-1-0	1.5	Approved.
MM 220	Materials Data Science	2-1-0	1.5	Approved with revised the course title 'Materials Data Science' to ' <b>Materials Informatics</b> '.
MM 222	Fuels, Furnaces and Refractories	2-1-0	3	Approved.
MM 224	Phase Diagrams and Phase Equilibria in Materials	2-1-0	3	The Senate suggested to revise the course content.  <b>Not approved.</b>

**ITEM: 42.6: Any other item with the permission of the Chair.**

Nil.



(Mr. S. P Hota)

Registrar and Secretary, Senate



(Professor Suhas S. Joshi)  
Director and Chairperson, Senate

