



Chemical Engineering Summary

Courses where revision was carried out							
(Course/subject name)	Course Code	Year/Date of introduction	Year/Date of revision	Percentage of content added or replaced	Agenda Item No.	Page No.	Link of relevant documents/minutes
NIL							

New Courses added*					
(Course/subject name)	Course Code	Activities/contents which have a bearing on increasing skill and employability	Agenda Item No.	Page No.	Link of relevant documents/minutes
NIL					

Feedback on curriculum received from stakeholders: Analysis& ATR*				
Stakeholder	Student	Faculty	Alumni	Employer
No. of responses	19	4	40	11
Link of Analysis	https://docs.google.com/document/d/1tAxbTia44pirvShvpJY7_IVZ88nK29ks/edit?usp=sharing&ouid=111501578212228138103&rtpof=true&sd=true	https://docs.google.com/document/d/1ctzOnLKaAJwf0WWOL4meS4F5G0_cWqXS/edit?usp=sharing&ouid=111501578212228138103&rtpof=true&sd=true	https://docs.google.com/document/d/1U_mllCSD-Xfx2UoHUL_xkPgeggLeN2AA/edit?usp=sharing&ouid=111501578212228138103&rtpof=true&sd=true	https://docs.google.com/document/d/1_ZQinenR1D1qiRDnf2XzUf4XfN7TM5vn/edit?usp=sharing&ouid=111501578212228138103&rtpof=true&sd=true
ATR Link	https://docs.google.com/document/d/1KKDdlzwTw6JkTDGtFS36bV_oZxukKReF/edit?usp=sharing&ouid=111501578212228138103&rtpof=true&sd=true	https://docs.google.com/document/d/1KKDdlzwTw6JkTDGtFS36bV_oZxukKReF/edit?usp=sharing&ouid=111501578212228138103&rtpof=true&sd=true	https://docs.google.com/document/d/1KKDdlzwTw6JkTDGtFS36bV_oZxukKReF/edit?usp=sharing&ouid=111501578212228138103&rtpof=true&sd=true	https://docs.google.com/document/d/1KKDdlzwTw6JkTDGtFS36bV_oZxukKReF/edit?usp=sharing&ouid=111501578212228138103&rtpof=true&sd=true
Link showing Excel sheet of Google Form details of stakeholders			https://docs.google.com/spreadsheets/d/12yTvJLHt_Sizen-QBLQtpmEu7mb9WjWxu/edit?usp=sharing&ouid=111501578212228138103&rtpof=true&sd=true	https://docs.google.com/spreadsheets/d/1dkDsZKQkdqe5NUGDM2puUaZaNCV-66Oj/edit?usp=sharing&ouid=111501578212228138103&rtpof=true&sd=true



Department of Chemical Engineering

Minutes of BOS Meeting

Date: 06/12/2024

The BOS Meeting was held on 1st Dec 2023 through online mode on Google Meet from 11:30 AM Onwards. During the meeting, following were present

External Members:-

1. Dr. Pankaj Tiwari, Associate Professor, Department of Chemical Engg., IIT Guwahati
(Expert nominated by the Academic Council)
2. Dr. Manish Vashishtha, Associate Professor, Department of Chemical Engg., MNIT Jaipur (Expert nominated by the Academic Council)
3. Dr. Ashok Sharma, Professor, Department of Chemical Engg, UEC, Ujjain
(Expert nominated by the Vice Chancellor, RGPV)
4. Mr. Rakesh Agrawal, Director, Myriadly Engineering and Business Solutions Pvt Ltd., Malanpur, Gwalior (Expert from Industry)

Internal Members:-

1. Dr. Manoj Kumar Gaur, I/C Head, Dept. of Chemical Engg., MITS-DU
2. Prof. Swati Gupta, Assistant Professor, Dept. of Chemical Engg., MITS - DU
3. Prof. Anish P. Jacob, Assistant Professor & Co-ordinator, Dept. of Chemical Engg., MITS - DU
4. Dr. Shourabh Singh Raghuwanshi, Assistant Professor, Dept. of Chemical Engg., MITS - DU
5. Prof. Shivangi Sharma, Assistant Professor, Dept. of Chemical Engg., MITS- DU

The following points were discussed and resolved & item wise discussion as follows:-

Item CM 1	To confirm the minutes of previous BoS meeting held in the month of May-June 2024. The minutes of the previous Board of studies (BoS) meeting held on 27 th May 2024 (Through Google Meet) were confirmed.
Item CM 2	To propose the scheme structure of VIII Semester with the provision of ONE DE & ONE OC course to be offered in online mode with credit transfer for the batch admitted in academic year 2021-22. (The total credits from I-VIII semester should not be less than 160 for this batch). Scheme structure of B.Tech. VIII Semester with the provision of ONE DE & ONE OC course to be offered in online mode with credit transfer for the batch admitted in academic year 2021-22 has been proposed. https://drive.google.com/file/d/121qzS7-gQYnd_eGiAtnnuPPvwQt4ZunZ/view?usp=sharing



Item
CM
3

To propose the list of courses which the students can opt from SWAYAM/NPTEL/ other MOOC Platforms/ Institution (MITS) MOOC, to be offered in online mode under **Departmental Elective (DE) category courses (DE-5) and open category (OC3)** for credit transfer in the **VIII Semester** under the flexible curriculum (**Batch admitted in academic year 2021-22**)

The list of courses which the students can opt from SWAYAM/NPTEL/ other MOOC Platforms/ Institution (MITS) MOOC, to be offered in online mode under **Departmental Elective (DE) category courses (DE-5) and open category (OC3)** for credit transfer in the **VIII Semester** under the flexible curriculum (Batch admitted in academic year 2021-22) were discussed and finalized as per the following detail:-

Elective- V, VIII Semester through SWAYAM /NPTEL/MOOC (Online Mode)

S.No.	Course Name	Course Code	Duration
1.	Chemical Reaction Engg.-II	170861	12 Weeks
2.	Biomass Conversion and Biorefinery	170862	12 Weeks
3.	Chemical Process Utilities	170863	12 Weeks

OC- 3, VIII Semester through SWAYAM /NPTEL/MOOC (Online Mode)

S.No.	Course Name	Duration
1.	Environmental Quality Monitoring & Analysis	12 Weeks
2.	Electrochemical Technology in Pollution Control	08 Weeks

To propose the list of “Additional Courses” which can be opted for getting an

- (i) Honours (for students of the host department)
- (ii) Minor Specialization (for students of other departments)

[These will be offered through SWAYAM/NPTEL/MOOC based Platforms for the B.Tech. VIII semester students (for the batch admitted in 2021-22)] and for B.Tech. VI semester (for the batch admitted in 2022-23)]

The list of “Additional Courses” which can be opted for getting an

- (i) Honours (for students of the host department)
- (ii) Minor Specialization (for students of other departments)

for the B.Tech. VIII semester students (for the batch admitted in 2021-22)] and for B.Tech. VI semester (for the batch admitted in 2022-23)] were proposed. The courses available on SWAYAM/NPTEL/MOOC based Platforms for the VI semester and for VIII Semester for Honours & Minor specialization were discussed & recommended are as follows:

S.No.	Purpose	Name of Course	Duration of the course in weeks
1.	For Minor Specialization(Others Department) (VIII Semester)	Inorganic Chemical Technology	12 Weeks
		Chemical Engineering Thermodynamics	12 Weeks
		Momentum Transfer in Fluids	12 Weeks
2.	For Minor Specialization (Others Department) (VI Semester)	Chemical Process Technology	12 Weeks
		Membrane Technology	12 Weeks
		Basic Principles and Calculations in Chemical Engineering	12 Weeks

Item
CM
4



The details of Courses offered for Honours (VI Semester) track wise for 2022 admitted students:

Tracks --->	<u>Energy Engineering</u>	<u>Separation Processes</u>	<u>Unit Operations</u>	<u>Polymer Technology</u>	<u>Environmental Engineering</u>
S. No.	Courses	Courses	Courses	Courses	Courses
1	Renewable Energy Engineering: Solar, Wind And Biomass Energy Systems(12 weeks)	Biological process design for wastewater treatment (8 Weeks)	Chemical Engineering Fluid Dynamics and Heat Transfer(12 weeks)	Polymer Reaction Engineering (12weeks)	Industrial Wastewater Treatment (12 weeks)
2	Waste to Energy Conversion (8 Weeks)	Physico-chemical processes for wastewater treatment (12 weeks)	Thermodynamics of Fluid Phase Equilibria (8 Weeks)	Characterization of Polymers, Elastomers and Composites(12 weeks)	Environmental Quality Monitoring & Analysis(12 weeks)

Item
CM
4



The details of Courses offered for Honours (VIII Semester) track wise for 2021 admitted students:

Tracks	<u>EnergyEngineering</u>	<u>SeparationProcesses</u>	<u>UnitOperations</u>	<u>PolymerTechnology</u>	<u>EnvironmentalEngineering</u>
S.No.	Courses	Courses	Courses	Courses	Courses
1	Carbon Materials and Manufacturing (12 Weeks)	Bioreactor Design and Analysis (8Weeks)	Cooling Technology: Why and How utilized in Food Processing and allied Industries (12 Weeks)	Plastic Waste Management (8 Weeks)	Air Pollution and Control (12 Weeks)
2	Clean Coal Technology (12 Weeks)	Soft Nano Technology (8 Weeks)	Food Science and Technology (12 Weeks)	Processing of Polymers and Polymer Composites (8 Weeks)	Environmental Chemistry and Microbiology (12 Weeks)
3.	Cryogenic Hydrogen Technology (8 Weeks)	-	-	-	-

Item CM 5 To review and finalize the **scheme structure of B.Tech VI Semester under** the flexible curriculum **(Batch admitted in 2022-23)**
 The **scheme structure of B.Tech VI Semester under** the flexible curriculum **(Batch admitted in 2022-23)** has been prepared.
https://drive.google.com/file/d/1JzH_igF9DEFR1DZBGaOV5nqp0pL2EZPz/view?usp=sharing

Item CM 6 To review & finalize the **syllabi for all Departmental Core Courses (DC) of B. Tech VI Semester (for batch admitted in 2022-23)** under the flexible curriculum along with their COs.
 The syllabi for all Departmental Core Courses (DC) and Mandatory Course (MC) of B. Tech VI Semester (for batch admitted in 2022-23) under the flexible curriculum along with their COs have been reviewed and finalized.
<https://drive.google.com/file/d/1lg6bwvbxadJFjySa942a7Ov1rQaunHmV/view?usp=sharing>

Item CM 7 To propose the list of courses from SWAYAM/NPTEL/MOOC Platforms to be offered for batches admitted in 2022-23 **in online mode under Departmental Elective (DE) Course with credit transfer, in the VI Semester.**
 The list of courses from SWAYAM/NPTEL/MOOC Platforms to be offered (for batches admitted in 2022-23)



	in online mode under Departmental Elective (DE-1) Course with credit transfer, in the VI Semester has been proposed and is as follows:																
	<table><tr><th>S.No.</th><th>Course Name</th><th>Course Code</th><th>Duration</th></tr><tr><td>1</td><td>Multiphase Flows</td><td>2170661</td><td>8 weeks</td></tr><tr><td>2</td><td>Membrane Technology</td><td>2170662</td><td>12 weeks</td></tr><tr><td>3</td><td>Physical and Electrochemical Characterizations in Chemical Engineering</td><td>2170663</td><td>8 weeks</td></tr></table>	S.No.	Course Name	Course Code	Duration	1	Multiphase Flows	2170661	8 weeks	2	Membrane Technology	2170662	12 weeks	3	Physical and Electrochemical Characterizations in Chemical Engineering	2170663	8 weeks
S.No.	Course Name	Course Code	Duration														
1	Multiphase Flows	2170661	8 weeks														
2	Membrane Technology	2170662	12 weeks														
3	Physical and Electrochemical Characterizations in Chemical Engineering	2170663	8 weeks														
Item CM 8	To review and finalize the courses & syllabi to be offered (for batch admitted in 2022-23) under the Open Category (OC) Courses to be offered in traditional mode for B Tech VI semester of other departments along with their COs. The syllabus of course to be offered (for batch admitted in 2022-23) under the Open Category (OC) Courses (in traditional mode) for B.Tech. VI semester students of other departments along with their COs have been prepared and finalized. <table><tr><td>OC Course</td></tr><tr><td>1. Fuels & Combustion 910115</td></tr></table> https://drive.google.com/file/d/19emdokX3f5jq_TcQS1x_NrJB-poOQgZ0/view?usp=sharing	OC Course	1. Fuels & Combustion 910115														
OC Course																	
1. Fuels & Combustion 910115																	
Item CM 9	To review and finalize the Experiment list/ Lab manual/Skill based mini-project for all the Laboratory Courses to be offered in B.Tech.VI semester (for batch admitted in 2022-23). The Experiment list/ Lab manual/ Skill based mini-project for all the Laboratory Courses to be offered in B.Tech.VI semester (for batch admitted in 2022-23) were discussed and finalized. https://drive.google.com/file/d/1Q2PWyblactYQQjmRLnVWkDuta1UcMYVq/view?usp=sharing																
Item CM 10	To review and finalize the scheme structure of B. Tech. IV Semester under the flexible curriculum (for batch admitted in 2023-24) The scheme and syllabi of B. Tech. IV Semester (for batch admitted in 2023-24) under the flexible curriculum along with their COs have been reviewed and finalized. https://drive.google.com/file/d/1aTKa-k-0xCyZsmIjhu2hm24Kq3JWZJW4/view?usp=sharing																
Item CM 11	To review and finalize the syllabi for all Departmental Core (DC) Courses of B. Tech. IV Semester (for batch admitted in 2023-24) under the flexible curriculum along with their COs The scheme and syllabi of B. Tech. IV Semester (for batch admitted in 2023-24) under the flexible curriculum along with their COs have been reviewed and finalized. https://drive.google.com/file/d/1nOeqogwoHA1QJhCeDxDMHGNxfEJa4jJq/view?usp=sharing																
Item CM 12	To review and finalize the Experiment list/ Lab manual/Skill based mini-project for all the Laboratory Courses to be offered in Batch IV semester (for batch admitted in 2023-24) The Experiment list/ Lab manual/ Skill based mini-project for all the Laboratory Courses to be offered in Batch IV semester (for batch admitted in 2023-24) were reviewed and finalized. https://drive.google.com/file/d/1HajaEgKcZcbRkiVct5MJNncOwwmxsutn/view?usp=sharing																



Item CM 13	To finalize the Skill Internship Project (SIP) module to be offered in Dec 2024 . The Skill Internship Project (SIP) module to be offered in Dec 2024 was discussed and finalized. https://drive.google.com/file/d/1XkquUeNolevSM8TtiDcOt6suTvoA8lf5/view?usp=sharing
Item CM 14	To propose the content of the courses identified for MITS-MOOC development to be offered in blended mode for VII Semester DE/OC courses for the batch admitted in 2022-23. The content of the courses identified for MITS-MOOC development to be offered in blended mode for VII Semester DE/OC courses for the batch admitted in 2022-23 was proposed and reviewed. https://drive.google.com/file/d/19l3EY6lAmjqrXlqGczms2GRo3QZXTtyq/view?usp=sharing
Item CM 15	To review the CO attainments, identify gaps and suggest corrective measures for the improvement in the CO attainment levels for the courses taught in Jan-June 2024 Session. The CO attainments have been reviewed; gaps identified and corrective measures for the improvement in the CO attainment levels have been suggested for Jan-June 2024. https://drive.google.com/file/d/1xW61W-BK6Xt3y0U_r3Gcp3wL7S8V9VsR/view?usp=sharing
Item CM 16	To review the PO attainment, CO-PO mapping matrix and action to be taken to improve PO attainment level. The PO attainment of 2020-2024 batch, CO-PO mapping matrix with attainments and gaps have been reviewed. https://drive.google.com/file/d/1eqyBv5cUVqE6_RyIOJXkNsZDYrO40BnY/view?usp=sharing
Item CM 17	To review curricula feedback from various stakeholders, its analysis and impact The curricula feedback from various stakeholders, its analysis and impact has been done & reviewed. https://drive.google.com/file/d/1_T4EUBwGmazPTNfVR3-2emtxy5r1dZF4/view?usp=sharing
Item CM 18	To discuss and recommend the scheme structure & syllabi of PG Programme (M.E./M.Tech./MCA/MBA) along with their COs (for batch admitted in 2023-24) . This item is NOT APPLICABLE in the Chemical Engineering Department.
Item CM 19	Any other matter. Nil

The meeting ended with the vote of thanks to all the members

Suggestion & Comment

1. The experts suggested that students should be given enough knowledge about theory before doing experiments in the lab when both theory and lab are included in the same semester.
2. The experts appreciated the proposed scheme and were satisfied with the list of Electives, Open courses and the Core courses included in the curriculum.

Anish P. Jacob

Prof. Anish P. Jacob
(Coordinator)

Dr. M. K. Gaur

Dr. M. K. Gaur
(I/C Head)