

BOS Minutes

R13

B.Tech - Chemical



DEPARTMENT OF CHEMICAL ENGINEERING

Date: 15.04.2013

Minutes of Board of Studies (BOS) meeting of B.Tech Chemical Engineering program held on 15-04-2013 at office Head of the department, Department of Chemical Engineering, Vignans University, Vadlamudi.

Agenda of the meeting:

1. To discuss and finalize structure and detailed syllabus for B.Tech Chemical Engineering program applicable from 2013-14 admitted batch.

Members present:

S.No	Name	Members	Signature
1.	Mr. P. Ashok Kumar, HOD, Department of Chemical Engineering, Vignans University	Chairman, BOS	
2.	Prof. V.V. Basava Rao, Vice- Principal & Head of Chemical Engineering, Osmania University College of Technology, Osmania University, Hyderabad	Invited member	
3.	Prof. V. Madhusudhana Rao, Director-DET, Vignans University	Invited member	
4.	Prof. R. Venkata Nadh, HOD, Department of Biotechnology, Vignans University	Invited member	
5.	Mr. P. Bangaraiyah, Assistant Professor, Department of Chemical Engineering, Vignans University	Internal Member	
6.	Ms. B. Sumalatha, Assistant Professor, Department of Chemical Engineering, Vignans University	Internal Member	
7.	Mr.K. Kumara Swamy, Assistant Professor, Department of Chemical Engineering, Vignans University	Internal Member	

Minutes of the BOS meeting

1. The chairman welcomed all the members of BOS.
2. The chairman highlighted broad objectives of the proposed changes in the course structure of B.Tech Chemical Engineering.
3. The chairmen also explained in detail the suggestions and comments communicated from various stakeholders.
4. The members of the BOS thoroughly looked at the proposals of Department of Chemical Engineering in the light of suggestions made by experts and recommended a new course structure for B.Tech Chemical Engineering program.

After the discussion it is resolved to:

1. Propose and approve course structure for all 4 years of B.Tech. Program in Chemical Engineering (Appendix-I).
2. Propose and approve detailed syllabus for the 4 year of B.Tech. Program in Chemical Engineering with effect from the academic year 2013-14. The proposed structure and syllabus are applicable for 2014 admitted batch onwards.
3. Stakeholder's feedback is collected, analyzed and given paramount priority while designing the curriculum and their suggestions are implemented.
4. The curriculum follows choice-based credit system.
5. Major restructuring has taken place in the curriculum by introducing minor specializations such as Management, Humanities & Science, Information Technology and Electronics and Communication Engineering.
6. Major reformation has taken place in the curriculum by introducing new electives such as Energy Engineering, Membrane Technology, Biochemical Engineering, Polymer technology, Nano Technology etc.
7. The curriculum is encompassing the courses that enable employability or entrepreneurship or skill development (Appendix -II).
8. In the B.Tech. Chemical Engineering revised regulation R13, the substantial changes are made in the content of all courses and hence the courses are considered as new courses (Appendix -III).

APPENDIX – I

Course Structure

I Year I Semester

Subject	L	T	P	To	C
Engineering Mathematics - I	4	-	-	4	4
Engineering Materials	4	-	-	4	4
Fundamentals of Electrical Engineering	4	-	-	4	4
Engineering Chemistry	4	-	-	4	4
Environmental Studies	3	-	-	3	3
Professional Ethics, Values and Human Rights	2	-	-	2	-
Practicals:					
Fundamentals of Electrical Engineering Lab	-	-	3	3	2
Engineering Chemistry Lab	-	-	3	3	2
Engineering Graphics Lab	1	-	3	4	3
TOTAL	22	-	9	31	26

I Year II Semester

Subject	L	T	P	To	C
Engineering Mathematics - II	4	-	-	4	4
Engineering Physics	4	-	-	4	4
Engineering Mechanics	4	-	-	4	4
Technical English Communication	3	-	-	2	5
Problem Solving and Computer Programming	5	-	-	5	5
Network Security	2	-	-	2	-
Practicals:					
Computer Programming Lab	-	-	3	3	2
Workshop Practice	-	-	3	3	2
Engineering Physics Lab	-	-	3	3	2
TOTAL	22	-	9	30	28

II Year I Semester

Subject	L	T	P	To	C
Probability and Statistics	4	-	-	4	4
Physical & Analytical Chemistry	4	-	-	4	4
Momentum Transfer	4	-	-	4	4
Chemical Process Calculations	4	-	-	4	4
Organic Chemistry	4	-	-	4	4
Seminar	-	-	1	1	1
Minor - I	4	-	-	4	4
Practical Course :					
Physical & Analytical Chemistry Lab	-	-	3	3	2
Momentum Transfer Lab	-	-	3	3	2
Soft Skills Lab	-	-	3	3	2
TOTAL	24	-	10	34	31

II Year II Semester

Subject	L	T	P	To	C
Data Structures	4	-	-	4	4
Process Instrumentation	4	-	-	4	4
Chemical Engineering Thermodynamics-I	4	-	-	4	4
Mechanical Unit Operations	4	-	-	4	4
Chemical Technology	4	-	-	4	4
Seminar	-	-	1	1	1
Minor - II	4	-	-	4	4
Practical Course :					
Mechanical Unit Operations Lab	-	-	3	3	2
Chemical Analysis Lab	-	-	3	3	2
Professional Communication Lab	-	-	3	3	2
TOTAL	24	-	10	34	31

III Year I Semester

Subject	L	T	P	To	C
Process Heat Transfer	4	-	-	4	4
Mass Transfer Operations-I	4	-	-	4	4
Chemical Reaction Engineering-I	4	-	-	4	4
Process Dynamics & Control	4	-	-	4	4
Energy Engineering (Elective-I)	4	-	-	4	4
Industrial Safety & Hazard Management (Elective-I)					
Design of Analysis & Experiments (Elective-I)					
Minor - III	4	-	-	4	4
Seminar		-	1	1	1
Practical Course :					
Process Heat Transfer Lab	-	-	3	3	2
Chemical Technology Lab	-	-	3	3	2
Process Dynamics & Control Lab	-	-	3	3	2
TOTAL	24	-	10	34	31

III Year II Semester

Subject	L	T	P	To	C
Managerial Economics	4	-	-	4	4
Mass Transfer Operations-II	4	-	-	4	4
Chemical Reaction Engineering-II	4	-	-	4	4
Chemical Engineering Thermodynamics-II	4	-	-	4	4
Membrane Technology (Elective-II)	4	-	-	4	4
Mathematical Methods for Chemical Engineering (Elective-II)		-	-	-	-
Biochemical Engineering (Elective-II)		-	-	-	-
Minor - IV	4	-	-	4	4
Seminar		-	1	1	1
Practical Course:					
Chemical Reaction Engineering Lab	-	-	3	3	2
Mass Transfer Operations Lab	-	-	3	3	2
Mini Project		-	3	3	2
TOTAL	24	-	10	34	31

IV Year I Semester

Subject	L	T	P	To	C
Chemical Engg. Plant Design & Equipment	4	-	-	4	4
Chemical Process Equipment Design	4	-	-	4	4
Process Modelling & Simulation	4	-	-	4	4
Industrial Pollution Control Engineering	4	-	-	4	4
Elective - III	4	-	-	4	4
Transport Phenomena					
Petrochemical Engineering					
Process Intensification					
Elective - IV	4	-	-	4	4
Optimization of Chemical Processes					
Polymer Technology					
Colloidal & Interfacial Science					
Practical Course:					
Chemical Process Equipment Design Lab	-	-	3	3	2
Chemical Process Simulation Lab	-	-	3	3	2
Industrial Pollution Control Engineering Lab	-	-	3	3	2
TOTAL	24	-	9	33	30

IV Year II Semester

Subject	L	T	P	To	C
Minor - V	4	-	-	4	4
Elective - V	4	-	-	4	4
Technology of Pharmaceutical and Fine Chemicals					
Mineral Process Engineering					
Food Processing Technology					
Elective - VI	4	-	-	4	4
Nano Technology					
Computer Applications in Chemical Engineering					
Fluidization Engineering					
Project work	-	-	20	20	10
	12	-	20	32	22

II Semester

Subject	L	T	P	To	C
Internship (6 months)	-	-	36	36	18
	-	-	36	36	18

L = Lecture ; T = Tutorial ; P = Practical ; To = Total ; C = Credits

The courses that are highlighted denote implementation of 'Choice Based Credit System (CBCS)'


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DEPARTMENT OF CHEMICAL ENGINEERING

APPENDIX - II

List of courses that enable employability or entrepreneurship or skill development in the R-13 B.Tech – Chemical Engineering

Sl. No.	Semester (Year)	Core / Elective	Course Name	Employability/ Entrepreneurship/ Skill development
1	First Year (Semester I)	Core	Engineering Mathematics - I	Skill development
2	First Year (Semester I)	Core	Engineering Materials	Skill development
3	First Year (Semester I)	Core	Fundamentals of Electrical Engineering	Skill development
4	First Year (Semester I)	Core	Engineering Chemistry	Skill development
5	First Year (Semester I)	Core	Environmental Studies	Skill development
6	First Year (Semester I)	Core	Professional Ethics, Values and Human Rights	Employability
7	First Year (Semester I)	Core	Fundamentals of Electrical Engineering Lab	Skill development
8	First Year (Semester I)	Core	Engineering Chemistry Lab	Skill development
9	First Year (Semester I)	Core	Engineering Graphics Lab	Skill development
10	First Year (Semester II)	Core	Engineering Mathematics - II	Skill development
11	First Year (Semester II)	Core	Engineering Physics	Skill development
12	First Year (Semester II)	Core	Engineering Mechanics	Skill development
13	First Year (Semester II)	Core	Technical English Communication	Employability
14	First Year (Semester II)	Core	Problem Solving and Computer Programming	Skill development
15	First Year (Semester II)	Core	Network Security	Skill development
16	First Year (Semester II)	Core	Computer Programming Lab	Skill development

17	First Year (Semester II)	Core	Workshop Practice	Skill development
18	First Year (Semester II)	Core	Engineering Physics Lab	Skill development
19	Second Year (Semester I)	Core	Probability and Statistics	Skill development
20	Second Year (Semester I)	Core	Physical & Analytical Chemistry	Skill development
21	Second Year (Semester I)	Core	Momentum Transfer	Skill development
22	Second Year (Semester I)	Core	Chemical Process Calculations	Skill development
23	Second Year (Semester I)	Core	Organic Chemistry	Skill development
24	Second Year (Semester I)	Core	Seminar	Skill development
25	Second Year (Semester I)	Core	Physical & Analytical Chemistry Lab	Skill development
26	Second Year (Semester I)	Core	Momentum Transfer Lab	Skill development
27	Second Year (Semester I)	Core	Soft Skills Lab	Skill development
28	Second Year (Semester II)	Core	Data Structures	Skill development
29	Second Year (Semester II)	Core	Process Instrumentation	Skill development
30	Second Year (Semester II)	Core	Chemical Engineering Thermodynamics-I	Skill development
30	Second Year (Semester II)	Core	Mechanical Unit Operations	Skill development
31	Second Year (Semester II)	Core	Chemical Technology	Skill development
32	Second Year (Semester II)	Core	Seminar	Skill development
33	Second Year (Semester II)	Core	Mechanical Unit Operations Lab	Skill development
34	Second Year (Semester II)	Core	Chemical Analysis Lab	Skill development
35	Second Year (Semester II)	Core	Professional Communication Lab	Skill development
36	Third Year (Semester I)	Core	Process Heat Transfer	Skill development
37	Third Year (Semester I)	Core	Mass Transfer Operations-I	Skill development
38	Third Year (Semester I)	Core	Chemical Reaction Engineering-I	Skill development

39	Third Year (Semester I)	Core	Process Dynamics & Control	Skill development
40	Third Year (Semester I)	Department Elective-I	Energy Engineering	Skill development
41	Third Year (Semester I)	Department Elective-I	Industrial Safety & Hazard Management	Skill development
42	Third Year (Semester I)	Department Elective-I	Design of Analysis & Experiments	Skill development
43	Third Year (Semester I)	Core	Seminar	Skill development
44	Third Year (Semester I)	Core	Process Heat Transfer Lab	Skill development
45	Third Year (Semester I)	Core	Chemical Technology Lab	Skill development
46	Third Year (Semester I)	Core	Process Dynamics & Control Lab	Skill development
47	Third Year (Semester II)	Core	Managerial Economics	Employability
48	Third Year (Semester II)	Core	Mass Transfer Operations-II	Skill development
49	Third Year (Semester II)	Core	Chemical Reaction Engineering- II	Skill development
50	Third Year (Semester II)	Core	Chemical Engineering Thermodynamics-II	Skill development
51	Third Year (Semester II)	Department Elective-II	Membrane Technology	Employability
52	Third Year (Semester II)	Department Elective-II	Mathematical Methods for Chemical Engineering	Skill development
53	Third Year (Semester II)	Department Elective-II	Biochemical Engineering	Skill development
54	Third Year (Semester II)	Core	Seminar	Skill development
55	Third Year (Semester II)	Core	Chemical Reaction Engineering Lab	Skill development
56	Third Year (Semester II)	Core	Mass Transfer Operations Lab	Skill development
57	Third Year (Semester II)	Core	Mini Project	Employability
58	Fourth Year (Semester I)	Core	Chemical Engg. Plant Design & Equipment	Employability
59	Fourth Year (Semester I)	Core	Chemical Process Equipment Design	Employability
60	Fourth Year (Semester I)	Core	Process Modeling & Simulation	Skill development
61	Fourth Year (Semester I)	Core	Industrial Pollution Control Engineering	Employability

62	Fourth Year (Semester I)	Department Elective-III	Transport Phenomena	Skill development
63	Fourth Year (Semester I)	Department Elective-III	Petrochemical Engineering	Skill development
64	Fourth Year (Semester I)	Department Elective-III	Process Intensification	Employability
65	Fourth Year (Semester I)	Department Elective-IV	Optimization of Chemical Processes	Skill development
66	Fourth Year (Semester I)	Department Elective-IV	Polymer Technology	Skill development
67	Fourth Year (Semester I)	Department Elective-IV	Colloidal & Interfacial Science	Skill development
68	Fourth Year (Semester I)	Core	Chemical Process Equipment Design Lab	Employability
69	Fourth Year (Semester I)	Core	Chemical Process Simulation Lab	Employability
70	Fourth Year (Semester I)	Core	Industrial Pollution Control Engineering Lab	Employability
71	Fourth Year (Semester II)	Department Elective-V	Technology of Pharmaceutical and Fine Chemicals	Skill development
72	Fourth Year (Semester II)	Department Elective-V	Mineral Process Engineering	Skill development
73	Fourth Year (Semester II)	Department Elective-V	Food Processing Technology	Skill development
74	Fourth Year (Semester II)	Department Elective-VI	Nano Technology	Skill development
75	Fourth Year (Semester II)	Department Elective-VI	Computer Applications in Chemical Engineering	Skill development
76	Fourth Year (Semester II)	Department Elective-VI	Fluidization Engineering	Skill development
77	Fourth Year (Semester II)	Core	Project work	Employability


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DEPARTMENT OF CHEMICAL ENGINEERING
APPENDIX - III

List of new courses in the R-13
B.Tech – Chemical Engineering Curriculum

Sl. No.	Semester (Year)	Core / Elective	Course Name
1	First Year (Semester I)	Core	Engineering Mathematics - I
	First Year (Semester I)		
2	First Year (Semester I)	Core	Engineering Materials
	First Year (Semester I)		
3	First Year (Semester I)	Core	Fundamentals of Electrical Engineering
	First Year (Semester I)		
4	First Year (Semester I)	Core	Engineering Chemistry
	First Year (Semester I)		
5	First Year (Semester I)	Core	Environmental Studies
	First Year (Semester I)		
6	First Year (Semester I)	Core	Professional Ethics, Values and Human Rights
	First Year (Semester I)		
7	First Year (Semester I)	Core	Fundamentals of Electrical Engineering Lab
	First Year (Semester I)		
8	First Year (Semester I)	Core	Engineering Chemistry Lab
	First Year (Semester I)		
9	First Year (Semester I)	Core	Engineering Graphics Lab
	First Year (Semester I)		
10	First Year (Semester II)	Core	Engineering Mathematics - II
	First Year (Semester II)		
11	First Year (Semester II)	Core	Engineering Physics
	First Year (Semester II)		
12	First Year (Semester II)	Core	Engineering Mechanics
	First Year (Semester II)		
13	First Year (Semester II)	Core	Technical English Communication
	First Year (Semester II)		
14	First Year (Semester II)	Core	Problem Solving and Computer Programming
	First Year (Semester II)		
15	First Year (Semester II)	Core	Network Security
	First Year (Semester II)		
16	First Year (Semester II)	Core	Computer Programming Lab
	First Year (Semester II)		

17	First Year (Semester II)	Core	Workshop Practice
18	First Year (Semester II)	Core	Engineering Physics Lab
19	Second Year (Semester I)	Core	Probability and Statistics
20	Second Year (Semester I)	Core	Physical & Analytical Chemistry
21	Second Year (Semester I)	Core	Momentum Transfer
22	Second Year (Semester I)	Core	Chemical Process Calculations
23	Second Year (Semester I)	Core	Organic Chemistry
24	Second Year (Semester I)	Core	Seminar
25	Second Year (Semester I)	Core	Physical & Analytical Chemistry Lab
26	Second Year (Semester I)	Core	Momentum Transfer Lab
27	Second Year (Semester I)	Core	Soft Skills Lab
28	Second Year (Semester II)	Core	Data Structures
29	Second Year (Semester II)	Core	Process Instrumentation
29	Second Year (Semester II)	Core	Chemical Engineering Thermodynamics-I
30	Second Year (Semester II)	Core	Mechanical Unit Operations
31	Second Year (Semester II)	Core	Chemical Technology
32	Second Year (Semester II)	Core	Seminar
33	Second Year (Semester II)	Core	Mechanical Unit Operations Lab
34	Second Year (Semester II)	Core	Chemical Analysis Lab
35	Second Year (Semester II)	Core	Professional Communication Lab
36	Third Year (Semester I)	Core	Process Heat Transfer
37	Third Year (Semester I)	Core	Mass Transfer Operations-I
38	Third Year (Semester I)	Core	Chemical Reaction Engineering-I

39	Third Year (Semester I)	Core	Process Dynamics & Control
40	Third Year (Semester I)	Department Elective-I	Energy Engineering
41	Third Year (Semester I)	Department Elective-I	Industrial Safety & Hazard Management
42	Third Year (Semester I)	Department Elective-I	Design of Analysis & Experiments
43	Third Year (Semester I)	Core	Seminar
44	Third Year (Semester I)	Core	Process Heat Transfer Lab
45	Third Year (Semester I)	Core	Chemical Technology Lab
46	Third Year (Semester I)	Core	Process Dynamics & Control Lab
47	Third Year (Semester II)	Core	Managerial Economics
48	Third Year (Semester II)	Core	Mass Transfer Operations-II
49	Third Year (Semester II)	Core	Chemical Reaction Engineering- II
50	Third Year (Semester II)	Core	Chemical Engineering Thermodynamics-II
51	Third Year (Semester II)	Department Elective-II	Membrane Technology
52	Third Year (Semester II)	Department Elective-II	Mathematical Methods for Chemical Engineering
53	Third Year (Semester II)	Department Elective-II	Biochemical Engineering
54	Third Year (Semester II)	Core	Seminar
55	Third Year (Semester II)	Core	Chemical Reaction Engineering Lab
56	Third Year (Semester II)	Core	Mass Transfer Operations Lab
57	Third Year (Semester II)	Core	Mini Project
58	Fourth Year (Semester I)	Core	Chemical Engg. Plant Design & Equipment
59	Fourth Year (Semester I)	Core	Chemical Process Equipment Design
60	Fourth Year (Semester I)	Core	Process Modeling & Simulation
61	Fourth Year (Semester I)	Core	Industrial Pollution Control Engineering

62	Fourth Year (Semester I)	Department Elective-III	Transport Phenomena
63	Fourth Year (Semester I)	Department Elective-III	Petrochemical Engineering
64	Fourth Year (Semester I)	Department Elective-III	Process Intensification
65	Fourth Year (Semester I)	Department Elective-IV	Optimization of Chemical Processes
66	Fourth Year (Semester I)	Department Elective-IV	Polymer Technology
67	Fourth Year (Semester I)	Department Elective-IV	Colloidal & Interfacial Science
68	Fourth Year (Semester I)	Core	Chemical Process Equipment Design Lab
69	Fourth Year (Semester I)	Core	Chemical Process Simulation Lab
70	Fourth Year (Semester I)	Core	Industrial Pollution Control Engineering Lab
71	Fourth Year (Semester II)	Department Elective-V	Technology of Pharmaceutical and Fine Chemicals
72	Fourth Year (Semester II)	Department Elective-V	Mineral Process Engineering
73	Fourth Year (Semester II)	Department Elective-V	Food Processing Technology
74	Fourth Year (Semester II)	Department Elective-VI	Nano Technology
75	Fourth Year (Semester II)	Department Elective-VI	Computer Applications in Chemical Engineering
76	Fourth Year (Semester II)	Department Elective-VI	Fluidization Engineering
77	Fourth Year (Semester II)	Core	Project work

N. K. K.

Chairman BoS