University of Pune
Structure for SE Chemical Engineering- 2012 Course

W.e.f.: 2013-14

Subject Code	Subject	Teaching scheme			Examination Scheme					Marks
		Leet	Pr	Tut/ Draw	Online	Theory	Pr	Or	Tw	Total
	TERM–I									
209341	Chemistry- I	4	2	--	50	50	50	--	--	150
209342	Introduction to Chemical Engineering	1	--	2	--	--	--	--	25	25
209343	Chemical Engineering Fluid Mechanics	3	2	--	50	50	--	50	25	175
209344	Chemical Engineering Materials	3	2	--	50	50	--	50	--	150
209345	Process Calculations	4	--	--	50	50	--	--	--	100
209346	Soft Skills	--	2	--	--	--	--	--	25	25
207004	Engineering Mathematics –III	4	--	1	50	50	--	--	25	125
	Total	19	08	03	250	250	50	100	100	750
	TERM–II									
Subject Code	**Subject**	**Teaching scheme**			**Examination Scheme**					**Marks**
		Leet	**Pr**	**Tut/ Draw**	**Online**	**Theory**	**Pr**	**Or**	**Tw**	**Total**
209348	Chemistry - II	4	2	--	50	50	50	--	--	150
209349	Heat Transfer	4	2	--	50	50	50	--	--	150
209350	Principles of Design	4	--	2	50	50	--	--	50	150
209351	Chemical Engineering Thermodynamics I	4	--	--	50	50	--	--	--	100
209352	Mechanical Operations	4	2	--	50	50	50	--	25	175
209353	Workshop Practice	--	2	--	--	--	--	--	25	25
	Industrial Training I (to be evaluated in fifth semester)	--	--	--	--	--	--	--	--	--
	Total	20	08		250	250	150	--	100	750

Note: - This syllabus is subject to change without prior notice by the concerned BOS

Principal
Sir Visvesvaraya Institute of Technology
Chincholi, Nasik-422102

Head Of Department
Department of Chemical Engineering
S. V. I. T. Chincholi,
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PRAVARA RURAL EDUCATION SOCIETY'S

SIR VISVESVARAYA INSTITUTE OF TECHNOLOGY, SINNAR, NASHIK

CHEMICAL ENGINEERING DEPARTMENT

Savitribai Phule Pune University Syllabus Structure

SE Chemical (2015 Course)

Semester-I **With effect from AY: 2016-17**

Code	Subject	Teaching Scheme (H/week)			Examination Scheme					Total Marks	Credits (Th+ PR)
		Leet	PR	Drw /Tu	Online	Theory End Semester	TW	PR	OR		
207004	Engineering Mathematics-III	4	-	1	50	50	25	-	-	125	5
209341	Chemistry-I	4	2	-	50	50	-	50	-	150	4+1
209342	Fluid Mechanics	4	2	-	50	50	25	-	50	175	4+1
209343	Engineering Materials	3	2	-	50	50	-	-	50	150	3+1
209344	Process Calculations	3	-	-	50	50	-	-	-	100	3
209345	Introduction to Chemical Engineering	1	-	2	-	-	25	-	-	25	2
209346	Soft Skills	-	2	-	-	-	25	-	-	25	1
	Audit Course-I	-	-	-	-	-	-	-	-	Grade= PP/NP	
Total		19	08	03	250	250	100	50	100	750	25

Semester-II

Code	Subject	Teaching Scheme (H/week)			Examination Scheme					Total Marks	Credits (Th+ PR)
		Leet	PR	Drw /Tu	Online	Theory End Semester	TW	PR	OR		
209347	Chemistry - II	4	2	–	50	50	–	50	–	150	4+1
209348	Heat Transfer	4	2	–	50	50	–	–	50	150	4+1
209349	Principles of Design	4	–	2	50	50	50	–	–	150	4+1
209350	Chemical Engineering Thermodynamics -I	4	–	–	50	50	–	–	–	100	4
209351	Mechanical Operations	4	2	–	50	50	–	–	50	150	4+1
209352	Workshop Practices	–	2	–	–	–	50	–	–	50	1
	Industrial Training	To be evaluated in fifth semester									
	Audit Course-II	-	-	-	-	-	-	-	-	Grade= PP/NP	
Total		20	8	2	250	250	100	50	100	750	25

Abbreviations: TW: Term Work, OR: Oral, PR: Practical, PP: Passed (Only for non-credit courses), NP: Not Passed (Only for non-credit courses)

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Pravara Rural Education Society's
SIR VISVESVARAYA INSTITUTE OF TECHNOLOGY, NASHIK
A/P. - Chincholi - 422102, Tal. Sinnar, Dist - Nashik (M.S.)
"Affiliated to University of Pune" Letter No. CA/1379 dt. 18/08/1998
Approved by AICTE, New Delhi Letter No. F -740-89-308(E) / ET/96 dtd. 15/10/1998
University ID No. 052 Institute Code 5125

Ref. No. Date: / /

Chemical Engineering Department

List of Audit Course (2015 Course)

Sr. No.	Class	Semester	Name of Audit Course	Remark
1	SE Chemical	I	Skill of Engineering	Audit Corse-I
2	SE Chemical	II	Value Education	Audit Course-II

(Dr. B.L. Pangarkar)
Head Of Department
Department of Chemical Engineering
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Savitribai Phule Pune University

Structure of BE Chemical Engineering (2015) Course

SEM - I											
Code	Subject	Teaching Scheme H/Week			Examination Scheme					Marks	Credits
		LECT	PR	DR/ TUT/ SEM	In-Semester Assessment	TW	PR	OR	End-Semester Exam		
409341	Process Dynamics and Control	4	2	--	30		50	--	70	150	5
409342	Chemical Reaction Engineering II	3	--	--	30	--	--	--	70	100	3
409343	Chemical Engineering Design II	3	--	2	30	--	--	50	70	150	4
409344	Elective I	3	--	2	30	25	--	--	70	125	4
409345	Elective II	3	--	--	30	--	--	--	70	100	3
409346	Industrial Training Evaluation	--	--	--	--	50	--	--	--	50	1
409347	Computer Aided Chemical Engineering II	--	2	--	--	25	--	--	--	25	1
409348	Project Phase I	--	--	2		50				50	1
Total		16	4	6	150	150	50	50	350	750	22

SEM - II											
Code	Subject	Teaching Scheme H/Week			Examination Scheme					Marks	Credits
		LECT	PR	DR/ TUT/ SEM	In-Semester Assessment	TW	PR	OR	End-Semester Exam		
409349	Process Modeling and Simulation	4	2	--	30	50	--	50	70	200	5
409350	Process Engineering Costing & Plant Design	4	--	4	30	50*	--	50	70	200	5
409351	Elective III	3	--	--	30	--	--	--	70	100	4
409352	Elective IV	3	--	--	30	--	--	--	70	100	4
409353	Project Phase II	--	--	6	--	100	--	50	--	150	6
Total		14	2	10	120	200		150	280	750	22

ELECTIVES			
Elective I (409344)	**Elective II (409345)**	**Elective III (409351)**	**Elective IV (409352)**
1. Environmental Engineering	1. Chemical Process Synthesis	1. Energy Conservation In Chemical Process Industries	1. Catalysis
2. Membrane Technology	2. Industrial Management & Entrepreneurship	2. Chemical Process Safety	2. Nanotechnology
3. Corrosion Engineering	3. Piping Design & Engineering	3. Food Technology	3. Fuel Cell Technology
4. Petroleum Refining	4. Advance Separation Processes	4. Advanced Materials	4. Petrochemical Engineering
5. Open Elective			

***TW (40)**

***TW (409350)** – 25 marks out of 50 are reserved for minimum two compulsory industrial visits that must be conducted during the whole year (preferably one visit every semester) under the head term work.

BE (Chemical Engineering)-2015 Course
Course Code: 409348
Course Name: Project Phase I
Credits: 1

Teaching Scheme:	**Examination Scheme:**
Practical: 2 h / week	TW: 50
	Total: 50

The department should display the list of approved teachers (guides) along with the project titles proposed by them. The students should be given liberty to choose the project area and project guide of their own choice. The student can also choose a state-of-the-art problem of their own interest based on the recent trends in Chemical Engineering / Science in consultation with the guide. They shall work on the designated problem either individually or in groups (maximum **two** students per group).

During the first term the students are required to:

1. Define the research problem.
2. Write a *research proposal*, which should contain –
   a. Project title
   b. Introduction
   c. Origin of the problem
   d. Literature review of research and development at national & international level
   e. Significance of the problem
   f. Objective
   g. Methodology
   h. Details of collaboration (if any)
3. Carry out *preliminary* experimental investigations or product design or process design etc.
4. Summarize the results (if any).

The student is required to prepare a month wise work plan (for both semesters) immediately after the allotment of the project and the department is required to maintain a progress report of every student/project. The progress report should reflect monthly progress done by the student as per the work plan. The progress report is to be duly signed by the respective project guide by giving the remarks/marks/grades etc. on the periodic progress done by the student at the mid of the term and should be **submitted along with project report** at the end of respective terms to the examiners as a supporting document for evaluation. Every student will be examined orally based on the topic of his/her project and relevant area to evaluate his understanding of the problem and the progress made by the student during the term.

Students should submit a neatly typed and spiral bound *research proposal* at the end of the first term in the following format.

Font: Times New Roman, Font size: 12, Headings: 14, Spacing: 1.5, typed on one side of the A4 size paper with proportionate diagrams, figures, graphs, photographs, tables etc.

Referencing style:

1. Guo J. X. and Gray D. G., Chiroptical behavior of (acetyl)(ethyl)cellulose liquid-crystalline solutions in chloroform, *Macromolecules, 22*, (1989), 2086.
   (Reference numbers should be mentioned in the main text as a superscript)

The proposal should contain:

Page 1: The cover page - should mention: Project title, Name of the student, Name of the guide, Exam seat number and Year.
Page 2: Certificate
Page 3: Index
Page 4 onwards: Research proposal (as above), experimental investigation details and result if any.
Last page: References

The department should prepare a template of the format of the project report and supply it to the students so as to maintain the uniformity in the project reports.

Students are encouraged to participate and present their project work in various events, competitions, conferences and seminars etc. in consultation with their guide.

Note: The project guides are required to educate the students about antiplagiarism policy of SPPU and apply the same while doing the project.

Savitribai Phule Pune University
Structure for SE (Chemical Engineering)-2015 Course

Subject Code	Subject	Teaching scheme			Examination Heads					Total Marks	Credits Th+PR
		Lect.	Practical	Tut. / Draw.	Online	Theory End Sem.	TW	PR	OR		
	Term-I										
207004	Engineering Mathematics-III	4	-	1 Tut.	50	50	25	-	-	125	5
209341	Chemistry-I	4	2	-	50	50	-	50	-	150	4+1
209342	Fluid Mechanics	4	2	-	50	50	25	-	50	175	4+1
209343	Engineering Materials	3	2	-	50	50	-	-	50	150	3+1
209344	Process Calculations	3	-	-	50	50	-	-	-	100	3
209345	Introduction to Chemical Engineering	1	-	2 Drg.	-	-	25	-	-	25	2
209346	Soft Skills		2				25			25	1
	Audit Course-1	-	-	-	-	-	-	-	-	**Grade :PP/NP**	
	Total	**19**	**08**	**03**	**250**	**250**	**100**	**50**	**100**	**750**	**25**
	Term-II										
209347	Chemistry - II	4	2	-	50	50	-	50	-	150	4+1
209348	Heat Transfer	4	2	-	50	50	-	-	50	150	4+1
209349	Principles of Design	4	-	2 Drg.	50	50	50	-	-	150	4+1
209350	Chemical Engineering Thermodynamics-I	4	-	-	50	50	-	-	-	100	4
209351	Mechanical Operations	4	2	-	50	50	-	-	50	150	4+1
209352	Workshop Practices	-	2	-	-	-	50	-	-	50	1
	Industrial Training	To be evaluated in the Fifth Semester									
	Audit Course-2	-	-	-	-	-	-	-	-	**Grade :PP/NP**	
	Total	**20**	**08**	**02**	**250**	**250**	**100**	**50**	**100**	**750**	**25**

Note: For non -audit courses, students are given certificates based on the assignments submitted by them.

Abbreviations: TW: Term Work, OR: Oral, PR: Practical, PP: Passed (Only for non-credit courses), NP: Not Passed (Only for non-credit courses)

Savitribai Phule Pune University
SE (Chemical Engineering)-2015 Course
Audit Course-1

Teaching Scheme
Assignments

Examination Scheme
Certification

The course will be conducted by the institute to develop skills in the engineering students. They should announce the course prior to beginning of the term.

COURSE CONTENTS

The students as a part of this audit course will submit six assignments based on above work. Successful completion of assignments will allow students to earn basic certification.

Savitribai Phule Pune University
SE (Chemical Engineering)-2015 Course
Audit Course-2

Teaching Scheme
Assignments

Examination Scheme
Certification

The course will be conducted by the institute to develop skills in the engineering students. They should announce the course prior to beginning of the term

COURSE CONTENTS

The students as a part of this audit course will submit six assignments based on above work. Successful completion of assignments will allow students to earn basic certification.