



APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

**Curriculum
for
B.Tech Degree
Semesters III to VIII
2016
Chemical Engineering**

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

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BRANCH: *Chemical Engineering*

SEMESTER - 3

Course Code	Course Name	L-T-P	Credits	Exam Slot
MA201	Linear Algebra & Complex Analysis	3-1-0	4	A
CH201	Chemical Process Calculations	3-1-0	4	B
CH203	Particle Technology	3-1-0	4	C
CH205	Fluid and Particle Mechanics - I	3-1-0	4	D
CH207	Chemistry for Process Engineering –I	2-1-0	3	E
HS200/ HS210	Business Economics/Life Skills	3-0-0/ 2-0-2	3	F
CH231	Chemistry Lab for Process Engineering	0-0-3	1	S
CH233	Chemical Technology and Environmental Engg Lab	0-0-3	1	T

Total Credits = 24 Hours: 28/29 Cumulative Credits= 71

SEMESTER - 4

Course Code	Course Name	L-T-P	Credits	Exam Slot
MA202	Probability Distributions, Transforms and Numerical Methods	3-1-0	4	A
CH202	Process Heat Transfer	3-1-0	4	B
CH204	Chemical Engineering Thermodynamics	3-1-0	4	C
CH206	Fluid and Particle Mechanics- II	3-0-0	3	D
CH208	Chemistry for Process Engineering- II	3-0-0	3	E
HS210/ HS200	Life Skills/Business Economics	2-0-2/ 3-0-0	3	F
CH232	Fluid and Particle Mechanics Lab	0-0-3	1	S
CH234	Particle Technology Lab	0-0-3	1	T

Total Credits = 23

Hours 28/27

Cumulative Credits= 94

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SEMESTER - 5

Course Code	Course Name	L-T-P	Credits	Exam Slot
CH301	Environmental Engineering	3-1-0	4	A
CH303	Mass Transfer Operations I	3-0-0	3	B
CH305	Chemical Reaction Engineering I	3-0-0	3	C
CH307	Computer Programming in C++	2-1-0	3	D
HS300	Principles of Management	3-0-0	3	E
	Elective 1	3-0-0	3	F
CH341	Design Project	0-1-2	2	S
CH331	Heat Transfer Operations Lab	0-0-3	1	T
CH333	Chemical Reaction Engineering Lab	0-0-3	1	U

Total Credits = 23

Hours: 28

Cumulative Credits= 117

- Elective 1:-**
1. CH361 Energy Engineering
 2. CH363 Principles of Nano Materials and Nano Technology
 3. CH365 Polymer Technology
 4. CH367 Numerical Methods for Process Engineers
 5. CH369 Operations Research
 6. CH371 Novel Separation Process

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SEMESTER - 6

Course Code	Course Name	L-T-P	Credits	Exam Slot
CH302	Process dynamics and control	3-1-0	4	A
CH304	Inorganic chemical technology	3-0-0	3	B
CH306	Mass transfer operations -II	3-0-0	3	C
CH308	Chemical Reaction Engineering - II	3-0-0	3	D
CH312	Chemical engineering design- I	3-0-0	3	E
	Elective 2	3-0-0	3	F
CH332	Mass transfer operations lab	0-0-3	1	S
CH334	Programming and process simulation lab	0-0-3	1	T
CH352	Comprehensive Exam	0-1-1	2	U

Total Credits = 23

Hours:27

Cumulative Credits= 140

Elective 2:-

1. CH362 Non-Conventional Petroleum Resources
2. CH364 Bioprocess Engineering
3. CH366 Corrosion Engineering
4. CH368 Computational Fluid Dynamics
5. CH372 Catalyst Science and Catalytic Processes
6. CH374 Process Design for Pollution Control

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SEMESTER - 7

Course Code	Course Name	L-T-P	Credits	Exam Slot
CH401	Transport Phenomena in Processes	3-1-0	4	A
CH403	Process Instrumentation	3-0-0	3	B
CH405	Chemical Engineering Design - II	3-0-0	3	C
CH407	Biochemical Engineering	3-0-0	3	D
CH409	Organic Chemical Technology	3-0-0	3	E
	Elective 3	3-0-0	3	F
CH451	Seminar & Project Preliminary	0-1-4	2	S
CH431	Process Control Lab	0-0-3	1	T

Total Credits = 22

Hours: 27

Cumulative Credits= 162

Elective 3:-

1. CH461 Petroleum Refinery Engineering
2. CH463 Enzyme Engineering
3. CH465 Process Optimization
4. CH467 Process Modelling and Simulation
5. CH469 Mathematical Methods in Process Engineering
6. CH471 Solid Waste Management

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SEMESTER - 8

Course Code	Course Name	L-T-P	Credits	Exam Slot
CH402	Project Engineering and Process Plant Economics	3-0-0	3	A
CH404	Safety Engineering of Process Plants	3-0-0	3	B
	Elective 4	3-0-0	3	C
	Elective 5 (Non Departmental)	3-0-0	3	D
CH492	Project		6	S

Total Credits = 18

Hours: 30

Cumulative Credits= 180

Elective 4:-

1. CH462 Natural Gas Engineering
2. CH464 Water and Waste Water Engineering
3. CH466 Composite Materials
4. CH468 Food Processing and Technology
5. CH472 Process Integration



ELECTIVE 5 (NON DEPARTMENTAL ELECTIVE COURSES)

(Note:- If a student has studied or chosen the elective course given within the brackets then the corresponding ND elective cannot be chosen)

1. AO482 FLIGHT AGAINST GRAVITY
2. AE482 INDUSTRIAL INSTRUMENTATION
3. AE484 INSTRUMENTATION SYSTEM DESIGN
4. AU484 MICROPROCESSOR AND EMBEDDED SYSTEMS
5. AU486 NOISE, VIBRATION AND HARSHNESS
6. BM482 BIOMEDICAL INSTRUMENTATION
7. BM484 MEDICAL IMAGING & IMAGE PROCESSING TECHNIQUES
8. BT461 DESIGN OF BIOLOGICAL WASTEWATER SYSTEMS
9. BT362 SUSTAINABLE ENERGY PROCESSES
10. CE482 ENVIRONMENTAL IMPACT ASSESSMENT
11. CE484 APPLIED EARTH SYSTEMS
12. CE486 GEO INFORMATICS FOR INFRASTRUCTURE MANAGEMENT
13. CE488 DISASTER MANAGEMENT
14. CE494 ENVIRONMENT HEALTH AND SAFETY
15. CS482 DATA STRUCTURES
16. CS484 COMPUTER GRAPHICS
17. CS486 OBJECT ORIENTED PROGRAMMING
18. CS488 C # AND .NET PROGRAMMING
19. EE482 ENERGY MANAGEMENT AND AUDITING
20. EE484 CONTROL SYSTEMS
21. EE486 SOFT COMPUTING
22. EE488 INDUSTRIAL AUTOMATION
23. EE494 INSTRUMENTATION SYSTEMS

24. EC482	BIOMEDICAL ENGINEERING
25. FT482	FOOD PROCESS ENGINEERING
26. FT484	FOOD STORAGE ENGINEERING
27. FT486	FOOD ADDITIVES AND FLAVOURING
28. IE482	FINANCIAL MANAGEMENT
29. IE484	INTRODUCTION TO BUSINESS ANALYTICS
30. IE486	DESIGN AND ANALYSIS OF EXPERIMENTS
31. IE488	TOTAL QUALITY MANAGEMENT
32. IC482	BIOMEDICAL SIGNAL PROCESSING
33. IT482	INFORMATION STORAGE MANAGEMENT
34. MA482	APPLIED LINEAR ALGEBRA
35. MA484	OPERATIONS RESEARCH (CH 369 OPERATIONS RESEARCH)
36. MA486	ADVANCED NUMERICAL COMPUTATIONS
37. MA488	CRYPTOGRAPHY
38. ME484	FINITE ELEMENT ANALYSIS
39. ME482	ENERGY CONSERVATION AND MANAGEMENT
40. ME471	OPTIMIZATION TECHNIQUES (CH 369 OPERATIONS RESEARCH)
41. MP482	PRODUCT DEVELOPMENT AND DESIGN
42. MP469	INDUSTRIAL PSYCHOLOGY & ORGANIZATIONAL BEHAVIOUR
43. MP484	PROJECT MANAGEMENT
44. MR482	MECHATRONICS
45. FS482	RESPONSIBLE ENGINEERING
46. SB482	DREDGERS AND HARBOUR CRAFTS
47. HS482	PROFESSIONAL ETHICS