



JSPM UNIVERSITY PUNE

Recognized by UGC u/s 2 (f) of UGC Act 1956 and enacted by the
State Government of Maharashtra - JSPM University Act, 2022 (Mah.IV of 2023)

JSPM University Pune
Faculty of Science and Technology
School of Basic and Applied Sciences



NEP aligned Curriculum Structure

for

M.Sc (Chemistry)

(Effective from AY: 2024-25)



JSPM University Pune

FACULTY OF SCIENCE AND TECHNOLOGY

SCHOOL OF BASIC AND APPLIED SCIENCES

FIRST YEAR MASTER OF SCIENCE
(ORGANIC CHEMISTRY)

COURSE STRUCTURE
(NEP 2020 Aligned)

W. E. F

2024-2025

RELEASE DATE

01/07/2024

REVISION NO.

0.0 (NEP)

SEMESTER I (LEVEL 6.5)

COURSE

TEACHING SCHEME

EXAMINATION SCHEME AND MARKS

TYPE	CODE	COURSE NAME	Hours / Week				THEORY (Equal Weightage for CIE and ESE)							PRACTICAL (Equal Weightage for CIE and ESE)		ORAL (Equal Weightage for CIE and ESE)		TOTAL	CREDITS
			L	T	P	EL	CONTINUOUS INSEMESTER EVALUATION (100 Marks)			END SEMESTER EXAMINATION (100 / 50 Marks)	CONTINUOUS INSEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)	CONTINUOUS INSEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)					
							T1 (30 Marks)	T2 (30 Marks)	Assignments (40 Marks)										
PCC	240GCHM01_01	Reaction Mechanisms in Organic Chemistry	3	-	-	2	30	30	40	100	-	-	-	-	100	3.5			
PCC	240GCHM02_01	Molecular Spectroscopy	3	-	-	-	30	30	40	100	-	-	-	-	100	3			
PCC	240GCHM03_01	Coordination chemistry and Organometallic compounds	3	-	-	-	30	30	40	100	-	-	-	-	100	3			
MMC	-	Multidisciplinary Minor Course	1	-	2	-	-	-	-	-	-	-	-	-	100	3			
SEC	240GCHM60_01	Programming for Chemists	2	-	2	-	-	-	-	-	50	50	50	50	100	2			
VSC (HSMC)	230IDCB01_01	Design Thinking and Creativity	1	-	-	2	-	-	-	-	50	50	50	50	100	3			
AEC (HSMC)	230UENM01_01	Communicative English for Professionals	1	-	2	-	30	30	40	50	-	-	50	50	50	1.5			
RMC	230IRMM01_01	Research Methodology	2	-	-	-	30	30	40	50	-	-	-	-	50	2			
LC	240GCHM04_01	Organic Synthesis Lab	-	-	2	-	-	-	-	-	-	-	-	-	50	2			
LC	240GCHM05_01	Quantitative Inorganic Chemistry Lab	-	-	2	-	-	-	-	-	50	50	-	-	50	1			
TOTAL			16	0	10	4									50	1			
															750	22			

L-Lecture
Format No.: JSPMUni/ACAD/001

T-Tutorial
Rev. No.:0.0

P-Practical Session (Laboratory)
Rev. Date:01/07/2024

EL-Experiential Learning
Page 1 of 2

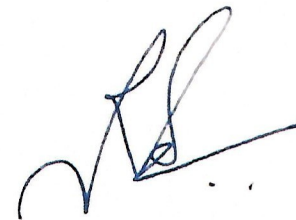
Multidisciplinary Minor Course (MMC)			
I	Course Code	230GCEB40	240GFRB53
	Course Name	Sustainable Materials	Industrial Fire Safety
II	Course Code	230GCEB42	240GSFB52
	Course Name	Water Quality Management	Food Quality Testing



Dr. Chandan Patel
Programme Coordinator (Chemistry), SBAS



Dr. Anuradha S. Deshpande
Associate Dean (Academics)



Dr. R. S. Deshpande
Dean, Faculty of Science and Technology



Prof. B.B. Ahuja
Vice Chancellor, JSPM University Pune



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FACULTY OF SCIENCE AND TECHNOLOGY

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SEMESTER II (LEVEL 6.5)

TYPE	CODE	COURSE NAME	TEACHING SCHEME				EXAMINATION SCHEME AND MARKS								TOTAL	CREDITS	
			Hours / Week				THEORY (Equal Weightage for CIE and ESE)				PRACTICAL (Equal Weightage for CIE and ESE)		ORAL (Equal Weightage for CIE and ESE)				
			L	T	P	E L	CONTINUOUS INSEMESTER EVALUATION (100 Marks)			END SEMESTER EXAMINATION (100 / 50 Marks)	CONTINUOUS INSEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)	CONTINUOUS INSEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)			
							T1 (30 Marks)	T2 (30 Marks)	Assignments (40 Marks)								
PCC	240GCHM06_02	Introductory Analytical Chemistry	3	-	-	2	30	30	40	100	-	-	-	-	100	2.5	
PCC	240GCHM07_02	Chromatographic Techniques	3	-	-	-	30	30	40	100	-	-	-	-	100	3	
PCC	240GCHM08_02	Spectroscopic Methods	2	-	-	-	30	30	40	50	-	-	-	-	50	2	
MMC	-	Multidisciplinary Minor Course	1	-	2	-	-	-	-	-	50	50	50	50	100	2	
SEC	240GCHM61_02	Informatics in Chemistry	2	-	2	-	-	-	-	-	50	50	50	50	100	3	
VSC	230IINB02_02	Innovation	1	-	-	2	-	-	-	-	-	50	50	50	50	1.5	
AEC (HSMC)	230UENM02_02	Business Communication	1	-	2	-	30	30	40	50	-	-	50	50	50	2	
RMC	230IRMM02_02	Research Design and Techniques	2	-	-	-	30	30	40	50	-	-	-	-	50	2	
LC	240GCHM09_02	Organic Separation Methods Lab	-	-	2	-	-	-	-	-	50	50	-	-	50	1	
LC	240GCHM10_02	Analytical Chemistry Lab	-	-	2	-	-	-	-	-	50	50	-	-	50	1	
IITP/FP/ CEP	240GCHM21_02	Internship/Field Project/Community Engagement Program	4 to 6 weeks				-	-	-	-	-	50	50	-	-	50	1
TOTAL			15	0	10	4								50	50	50	22

Note: A Postgraduate Diploma will be awarded if a student exits after first year.
For Exit at the end of first year the student must complete: (Total credits = 8)

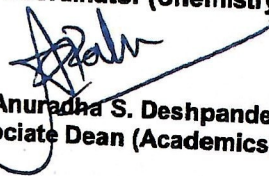
a) An internship / OJT of 8 - 10 weeks (4 credits)

b) Additional Course 1 (4 credits) (Vocational Skill Course (VSC) / Skill Enhancement Course (SEC))

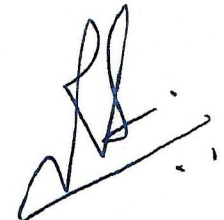
Sem.	Multidisciplinary Minor Course (MMC)		
	I	Course Code	230GCEB40
Course Name		Sustainable Materials	Industrial Fire Safety
II	Course Code	230GCEB42	240GSFB52
	Course Name	Water Quality Management	Food Quality Testing



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SEMESTER III (LEVEL 7.0)

COURSE			TEACHING SCHEME				EXAMINATION SCHEME AND MARKS								TOTAL	CREDITS
TYPE	CODE	COURSE NAME	Hours / Week				THEORY (Equal Weightage for CIE and ESE)			PRACTICAL (Equal Weightage for CIE and ESE)		ORAL (Equal Weightage for CIE and ESE)				
			L	T	P	EL	CONTINUOUS INSEMESTER EVALUATION (100 Marks)			END SEMESTER EXAMINATION (100 / 50 Marks)	CONTINUOUS INSEMESTER EVALUATION (25 Marks)	END SEMESTER EXAMINATION (25 Marks)	CONTINUOUS INSEMESTER EVALUATION (25 Marks)	END SEMESTER EXAMINATION (25 Marks)		
							T1 (30 Marks)	T2 (30 Marks)	Assignments (40 Marks)							
PEC	-	Program Elective Course 1	3	-	-	-	30	30	40	100	-	-	-	-	100	3
PEC	-	Program Elective Course 2	3	-	-	-	30	30	40	100	-	-	-	-	100	3
VEC	-	Green Chemistry	2	-	-	-	30	30	40	50	-	-	-	-	50	2
IOC	-	Interdisciplinary Open Course	2	-	-	-	30	30	40	100	-	-	-	-	100	2
IOC	-	Interdisciplinary Open Course	2	-	-	-	30	30	40	100	-	-	-	-	100	2
PROJ	240GCHM16_03	Field Project	-	-	4	8	-	-	-	-	50	50	50	50	100	4
LC	240GCHM17_03	Catalytic Asymmetric Synthesis Lab	-	-	4	-	-	-	-	-	50	50	-	-	50	2
TOTAL			12	0	8	8	-	-	-	50	-	-	-	-	600	18
MLC#	-	Audit Course	1	-	-	-	-	-	-	50	-	-	-	-	50	1



L- Lecture

T-Tutorial

Learning

P-Practical Session (Laboratory)

EL-Experiential

Format No.: JSPMUni/ACAD/001

Rev. No.:0.0

Rev. Date:01/07/2025

Page 1 of 2

Sem.	Programme Elective Course (PEC)				
		PEC 1		PEC 2	
III	Course Code	240GCHM11_03	240GCHM12_03	240GCHM13_03	240GCHM14_03
	Course Name	Pericyclic Reactions and Photochemistry	Asymmetric Synthesis	Stereochemistry	Symmetry and Group Theory

Sem.	Interdisciplinary Open Course (IOC)				
		IOC 1		IOC 2	
III	Course Code	230GCEB29	230GCEB31	230GCEB37	230GCEB92
	Course Name	Smart Cities	E-Waste Management	Water and Climate Change	Basics of Bioremediation

Sem.	Value Education Course (VEC)		
III	Course Code	240GCHM15	230UPYB03
	Course Name	Green Chemistry	Ethics and Moral Values


Sem.	Mandatory Learning Course (MLC)*	
Audit Course		
III	Course Code	250GCHB52_03
	Course Name	Chemical Safety and Risk Management
IV	Course Code	230UPOB02_04
	Course Name	Introduction to Indian Constitution


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SEMESTER IV (LEVEL 7.0)

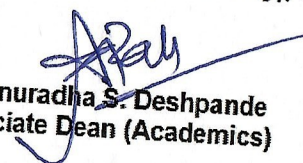
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							T1 (30 Marks)	T2 (30 Marks)	Assignments (40 Marks)							
PEC 1	-	Program Elective Course 1	3	-	-	-	30	30	40	100	-	-	-	-	100	3
PEC 2	-	Program Elective Course 2	3	-	-	-	30	30	40	100	-	-	-	-	100	3
PROJ	240GCHM22_04	Project/Internship with Project	-	-	12	24	-	-	-	-	200	200	100	100	300	12
TOTAL			6	0	12	24	-	-	-	-	200	200	100	100	300	12
MLC#	-	Audit Course	1	-	-	-	-	-	-	50	-	-	-	-	50	1




Sem.	Programme Elective Course (PEC)	
	PEC 1	PEC 2
IV	Course Code	240GCHM18_04
	Course Name	Organometallic Chemistry and Catalysis
	Course Code	240GCHM23_04
	Course Name	Innovative Organic Chemistry
		240GCHM19_04
		Organic Spectroscopy and Structure Elucidation
		240GCHM20_04
		Natural Products Synthesis


Sem.	Mandatory Learning Course (MLC)#	
		Audit Course
III	Course Code	250GCHB52_03
	Course Name	Chemical Safety and Risk Management
IV	Course Code	230UPOB02_04
	Course Name	Introduction to Indian Constitution


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