



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 (Mathematics)

(Effective from AY: 2024-25)



JSPM University Pune

FACULTY OF SCIENCE AND TECHNOLOGY

SCHOOL OF COMPUTATIONAL SCIENCES

MASTER OF SCIENCE
(MATHEMATICS)

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

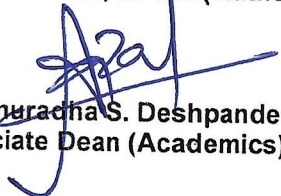
EXAMINATION SCHEME AND MARKS

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)							
PSMC	240GMAM01_01	Mathematical Statistics	2	1	-	-	30	30	40	100	-	-	-	-	100	3
PCC	240GMAM02_01	Foundations of Analysis	2	1	-	-	30	30	40	100	-	-	-	-	100	3
PCC	240GMAM03_01	Groups and Rings	2	1	-	-	30	30	40	100	-	-	-	-	100	3
PCC	240GMAM04_01	Ordinary Differential Equations	2	-	-	2	30	30	40	100	-	-	-	-	100	3
MMC	-	Multidisciplinary Minor Course	1	-	2	-	-	-	-	-	50	50	50	50	100	2.5
SEC	230GCAB02_01	C Programming	2	-	2	-	-	-	-	-	50	50	50	50	100	2
VSC	230IDCB01_01	Design Thinking and Creativity	1	-	-	2	-	-	-	-	50	50	50	50	100	3
AEC (HSMC)	231UENM01_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
TOTAL			15	3	6	4									750	22

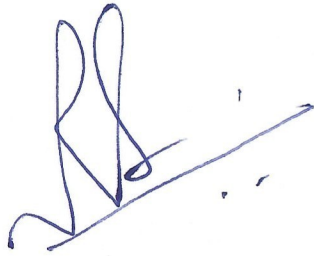



Sem.	Multidisciplinary Minor Course (MMC)		
I	Course Code	230GCSM28_01	240GFRB53_01
	Course Name	Introduction to Data Science	Industrial Fire Safety
II	Course Code	230GCSM29_02	230GCEB42_02
	Course Name	Introduction to Artificial Intelligence	Water Quality Management


Dr. M. G. Shrikan,
 Program Coordinator, M. Sc. (Mathematics)


Dr. Anuradha S. Deshpande
 Associate Dean (Academics)




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


Prof. B. B. Ahuja
 Vice Chancellor,
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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	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)								
PSMC	240GMAM51_02	Probability Distributions	2	1	-	-	30	30	40	100	-	-	-	-	100	3	
PCC	240GMAM06_02	Advanced Complex Analysis	2	1	-	-	30	30	40	100	-	-	-	-	100	3	
PCC	240GMAM07_02	Advanced Linear Algebra	2	1	-	-	30	30	40	100	-	-	-	-	100	3	
PCC	240GMAM08_02	Partial Differential Equations	2	-	-	2	30	30	40	100	-	-	-	-	100	2.5	
MMC	-	Multidisciplinary Minor Course	1	-	2	-	-	-	-	-	50	50	50	50	100	2	
VSC	230IINB01_02	Innovation	1	-	-	2	-	-	-	-	-	-	50	50	50	1.5	
AEC (HSMC)	230UENM02_02	Business Communication	1	-	2	-	30	30	40	50	-	-	-	-	50	2	
RMC	230IRMM03_02	Research Data Analysis	2	-	-	-	30	30	40	50	-	-	-	-	50	2	
LC	240GMAM40_02	Mathematical Computing with Python	-	-	2	-	-	-	-	-	50	50	-	-	50	1	
IITP/FP /CEP	240GMAM91_02	Internship/Field Project/Community Engagement Program	4 to 6 Weeks				-	-	-	-	-	-	-	50	50	50	2
TOTAL			13	3	6	4									750	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))

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

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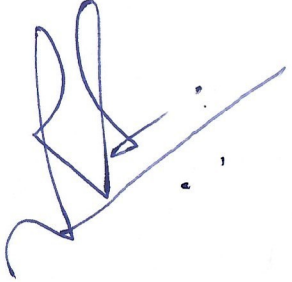



Sem.	Multidisciplinary Minor Course (MMC)		
I	Course Code	230GCSM28_01	240GFRB53_01
	Course Name	Introduction to Data Science	Industrial Fire Safety
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	Course Name	Introduction to Artificial Intelligence	Water Quality Management


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COURSE STRUCTURE (NEP 2020 Aligned)

W. E. F

2025-2026

RELEASE DATE

01/07/2025

REVISION NO.

0.0 (NEP)

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 (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)								
PEC	-	Program Elective Course -01 / MOOC	3	-	-	-	30	30	40	100	-	-	-	-	100	3	
PEC	-	Program Elective Course -02 / MOOC	3	-	-	-	30	30	40	100	-	-	-	-	100	3	
IOC	-	Interdisciplinary Open Course-01	2	-	-	-	30	30	40	100	-	-	-	-	100	2	
IOC	-	Interdisciplinary Open Course-02	2	-	-	-	30	30	40	100	-	-	-	-	100	2	
VEC	230U PYB03_03	Ethics and Moral Values	2	-	-	-	30	30	40	50	-	-	-	-	50	2	
PROJ	240GMAM91_03	Field Project	-	-	4	8	-	-	-	-	50	50	50	50	100	4	
SLC	240GMAM37_03	Seminar	-	-	-	8	-	-	-	-	-	-	50	50	50	2	
TOTAL			12	-	4	16									600	18	
MLC#	-	Audit Course	1	-	-	-	-	-	-	50	-	-	-	-	50	1	

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



T-Tutorial
Rev. No.:0.0

P-Practical Session (Laboratory)
Rev. Date:01/07/2025


EL-Experiential Learning
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Programme Elective Course (PEC)									
Sem.		PEC 1				PEC 2			
III	Course Code	240GMAM34_03	240GMAM25_03	240GMAM29_03	240GMAM33_03	240GMAM22_03	240GMAM27_03	240GMAM30_03	240GMAM21_03
	Course Name	Operation Research	Commutative Algebra	Classical Mechanics	Nonlinear Programming	Graph Theory	Fundamentals of Number Theory	Numerical Analysis	Discrete Mathematics and Combinatorics
Sem.		PEC 3				PEC 4			
IV	Course Code	240GMAM23_04	240GMAM26_04	240GMAM31_04	240GMAM35_04	240GMAM24_04	240GMAM28_04	240GMAM32_04	240GMAM36_04
	Course Name	Lattice Theory	Galois Theory	Fluid Dynamics	Financial Mathematics I	Fuzzy Theory	Matroid Theory	Finite Element Methods	Financial Mathematics II

Interdisciplinary Open Course (IOC)									
Sem.		IOC 1				IOC 2			
III	Course Code	250GMAM05_03	230GCSM32_03	230GETB32_03	230VBCB14_03	250GCYM01_03	250GMAM06_03	230GETB37_03	230GMTB62_03
	Course Name	Statistical Learning and Data Mining	Machine Learning in Practice	Cyber Physical System	E-Commerce	Cryptography	Financial Statistics	Principles of Communication System	Fundamentals of Mechatronics



Mandatory Learning Course (MLC [#]) Audit course		
	Audit-I	Audit-II
Course Code	250GCAM52_03	230UPOB02_04
Course Name	Cloud computing and cloud security	
Course Code	250GCAM54_03	Introduction to Indian Constitution
Course Name	DevOps and Continuous Integration/ Continuous Deployment (CI/CD)	


Dr. M.G. Shrigan,
 Program Coordinator, M. Sc. Mathematics


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SEMESTER IV (LEVEL 7.0)

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			Hours / Week				THEORY (Equal Weightage for CIE and ESE)			PRACTICAL (Equal Weightage for CIE and ESE)		ORAL (Equal Weightage for CIE and ESE)				
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							T1 (30 Marks)	T2 (30 Marks)	Assignments (40 Marks)							
PEC	-	Program Elective Course -03 / MOOC	3	-	-	-	30	30	40	100	-	-	-	-	100	3
PEC	-	Program Elective Course -04 / MOOC	3	-	-	-	30	30	40	100	-	-	-	-	100	3
PROJ	240GMAM93_04	Project / Internship with Project	-	-	12	24	-	-	-	-	200	200	100	100	300	12
TOTAL			6	-	12	24									500	18
MLC#	-	Audit Course	1	-	-	-	-	-	-	50	-	-	-	-	50	1



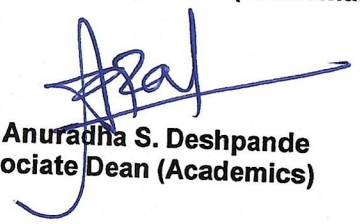
Sem.	Programme Elective Course (PEC)								
		PEC 1				PEC 2			
III	Course Code	240GMAM34_03	240GMAM25_03	240GMAM29_03	240GMAM33_03	240GMAM22_03	240GMAM27_03	240GMAM30_03	240GMAM21_03
	Course Name	Operation Research	Commutative Algebra	Classical Mechanics	Nonlinear Programming	Graph Theory	Fundamentals of Number Theory	Numerical Analysis	Discrete Mathematics and Combinatorics
Sem.	PEC 3				PEC 4				
IV	Course Code	240GMAM23_04	240GMAM26_04	240GMAM31_04	240GMAM35_04	240GMAM24_04	240GMAM28_04	240GMAM32_04	240GMAM36_04
	Course Name	Lattice Theory	Galois Theory	Fluid Dynamics	Financial Mathematics I	Fuzzy Theory	Matroid Theory	Finite Element Methods	Financial Mathematics II



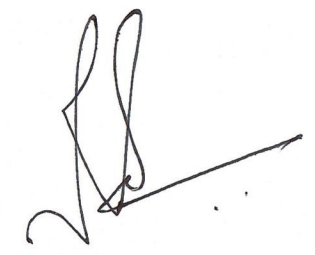
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Course Name	Cloud computing and cloud security	
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