



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 Civil and Environmental Science



NEP aligned Curriculum Structure

For

M.Tech (Transportation Engineering)

(Effective from AY: 2025-26)



JSPM University Pune

FACULTY OF SCIENCE & TECHNOLOGY

SCHOOL OF CIVIL AND ENVIRONMENTAL SCIENCES

COURSE STRUCTURE (NEP 2020 Aligned)

W. E. F

2024-2025

RELEASE DATE

01/07/2025

FIRST YEAR MASTER OF TECHNOLOGY
(TRANSPORTATION ENGINEERING)

REVISION NO.

1.0 (NEP)

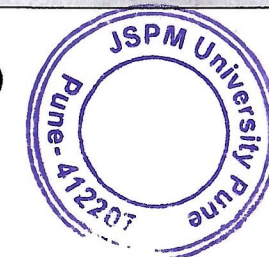
SEMESTER I (LEVEL 6.5)

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)									
PSMC	230GMAM03_01	Probability and Statistics	2	1	-	-	30	30	40	100	-	-	-	-	100	3		
PCC	231GTEM01_01	Traffic Engineering	3	-	-	-	30	30	40	100	-	-	-	-	100	3		
PCC	231GTEM02_01	Pavement Materials and Construction	2	-	-	2	30	30	40	100	-	-	-	-	100	2.5		
PCC	250GTEM01_01	Rail and Metro Construction	2	-	-	-	30	30	40	50	-	-	-	-	50	2		
MMC	-	Multidisciplinary Minor Course- I	1	-	2	-	-	-	-	-	50	50	50	50	100	2		
SEC	230GTEM19_01	Geospatial Analysis	2	-	2	-	-	-	-	-	50	50	50	50	100	3		
VSC (HSMC)	230IDCB01_01	Design Thinking and Creativity	1	-	-	2	-	-	-	-	-	-	50	50	50	1.5		
AEC (HSMC)	231UENM01_01	Communicative English for Professionals	1	-	2	-	-	-	-	-	50	50	-	-	50	2		
RMC	230IRMM01_01	Research Methodology	2	-	-	-	30	30	40	50	-	-	-	-	50	2		
LC	230GTEM20_01	Transportation Engineering Lab	-	-	2	-	-	-	-	-	50	50	-	-	50	1		
TOTAL			16	1	8	4									750	22		

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

T-Tutorial
Rev. No.:1.0

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



EL-Experiential Learning
Page 1 of 2

Sem	Multidisciplinary Minor Course (MMC)	
I (MMC – I)	Course Code	230GRAM24_01
	Course Name	Sensors and Automation
II (MMC – II)	Course Code	230GETM16_02
	Course Name	IoT Basics and Applications



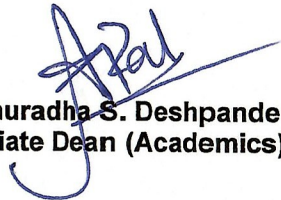
Dr. Prashant Sudani
Programme Coordinator, MTech-TRE



Dr. Aniket Patil
Director (I/C), School of Civil and Environmental
Sciences



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



Dr. Anuradha S. Deshpande
Associate Dean (Academics)



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





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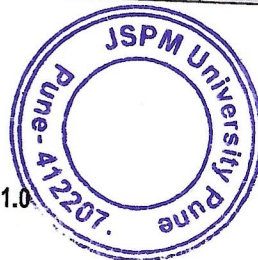
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SEMESTER II (LEVEL 6.5)

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)									
PCC	230GTEM04_02	Pavement Analysis and Design	2	1	-	-	30	30	40	100	-	-	-	-	100	3		
PCC	230GTEM05_02	Highway Structures	2	-	-	2	30	30	40	100	-	-	-	-	100	3		
PCC	230GTEM06_02	Highway Geotechnology	3	-	-	-	30	30	40	100	-	-	-	-	100	2.5		
MMC	-	Multidisciplinary Minor Course- II	1	-	2	-	-	-	-	-	-	-	-	-	100	3		
SEC	230GSEM19_02	Building Information Modelling	2	-	2	-	-	-	-	-	50	50	50	50	100	2		
VSC (HSMC)	230IINB02_02	Innovation	1	-	-	2	-	-	-	-	50	50	50	50	100	3		
AEC (HSMC)	231UENM02_02	Business Communication	1	-	2	-	-	-	-	-	-	-	50	50	50	1.5		
RMC	230IRMM02_02	Research Design and Techniques	2	-	-	-	30	30	40	50	50	50	-	-	50	2		
LC	230GTEM21_02	Traffic and Pavement Engineering Lab	-	-	2	-	-	-	-	-	-	-	-	-	50	2		
IITP/FP/CEP	230GTEM22_02	Internship / Field Project / Community Engagement Programme	4 to 6 weeks				-	-	-	-	50	50	-	-	50	1		
TOTAL			14	1	8	4							50	50	50	2		
															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))

Sem	Multidisciplinary Minor Course (MMC)	
I (MMC – I)	Course Code	230GRAM24_01
	Course Name	Sensors and Automation
II (MMC – II)	Course Code	230GETM16_02
	Course Name	IoT Basics and Applications



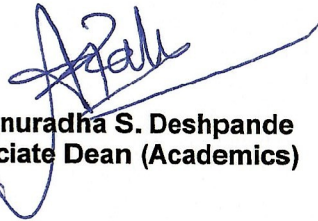
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Programme Coordinator, MTech-TRE



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Director (I/C), School of Civil and Environmental
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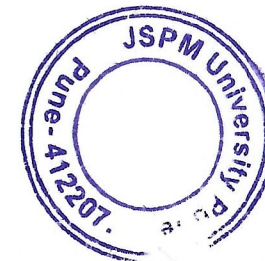
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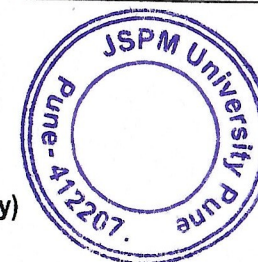
SEMESTER III (LEVEL 7)

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-I / MOOCs	3	-	-	-	30	30	40	100	-	-	-	-	100	3		
PEC	-	Program Elective-II / MOOCs	3	-	-	-	30	30	40	100	-	-	-	-	100	3		
IOC	-	Interdisciplinary Open Course -I	2	-	-	-	30	30	40	100	-	-	-	-	100	2		
IOC	-	Interdisciplinary Open Course -II	2	-	-	-	30	30	40	100	-	-	-	-	100	2		
VEC	230USYB01_03	Behavioral Science and Ethics	2	-	-	-	30	30	40	50	-	-	-	-	50	2		
SLC	240GTEM03_03	Seminar	-	-	-	8	-	-	-	-	-	-	50	50	50	2		
IITP/F P/CEP	240GTEM01_03	Internship / Field Project / Community Engagement Programme	-	-	4	8	-	-	-	-	50	50	50	50	100	4		
TOTAL			12	0	8	8											600	18
MLC#	230GSEM29_04	Audit Course - I	1	-	-	-	-	-	-	50	-	-	-	-	50	1		

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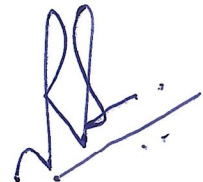
Sem.	Interdisciplinary Open Course (IOC)		
	Specialization	(IOC – I)	(IOC – II)
III	Course Code	250GCSM03_03	230GCSM33_03
	Course Name	Fundamentals of Artificial Intelligence and Machine Learning	Introduction to Python Programming
III	Course Code	230VMSM11_03	230VBCB04_03
	Course Name	Fundamentals of Financial Management	Basics of Accounting

Sem.	Specialization	Programme Elective Course (PEC)		
		Transportation Engineering		
III (PEC – I)	Course Code	230GTEM07_03	230GTEM08_03	230GTEM09_03
	Course Name	Mass Transit System	Urban Public Transport	Highway Planning and Economic Development
III (PEC – II)	Course Code	230GTEM10_03	230GTEM11_03	230GTEM12_03
	Course Name	Road Safety and Road Safety Audit	Airport, Railway, Docks, and Harbor Engineering	Intelligent Transport Systems
IV (PEC – III)	Course Code	230GTEM13_04	230GSEM15_04	230GTEM15_04
	Course Name	Safety in Highways and Airports	Advanced Concrete Technology and Applications	Ground Improvement Techniques
IV (PEC – IV)	Course Code	230GTEM16_04	230GTEM17_04	230GTEM18_04
	Course Name	Sustainable Construction and Lean Construction	Pavement Recycling	Design of Highway Geometrics and Drainage

Sem.	Mandatory Learning Course (MLC*) - Audit Course	
III (Audit Course - I)	Course Code	230GSEM29_03
	Course Name	Structural Audit
IV (Audit Course - II)	Course Code	230UPOB02_04
	Course Name	Introduction to Indian Constitution

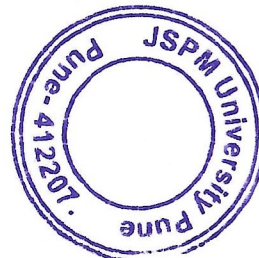

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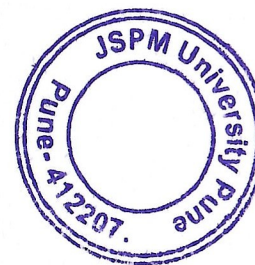
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SEMESTER IV (LEVEL 7)

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-III/ MOOCs	3	-	-	-	30	30	40	100	-	-	-	-	100	3
PEC	-	Program Elective-IV/ MOOCs	3	-	-	-	30	30	40	100	-	-	-	-	100	3
PROJ	240GTEM02_04	Project / Internship with Project	-	-	12	24	-	-	-	-	200	200	100	100	300	12
TOTAL			6	0	12	24					200	200	100	100	500	18
MLC#	230UPOB02_04	Audit Course - II	1	-	-	-	-	-	-	50	-	-	-	-	50	1




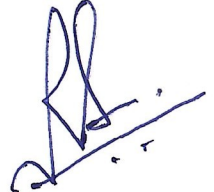
Sem.	Interdisciplinary Open Course (IOC)		
	Specialization	(IOC - I)	(IOC - II)
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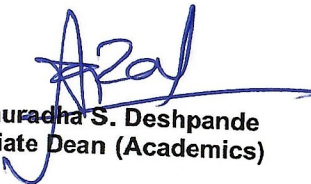
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	Specialization	Transportation Engineering		
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IV (PEC - IV)	Course Code	230GTEM16_04	230GTEM17_04	230GTEM18_04
	Course Name	Sustainable Construction and Lean Construction	Pavement Recycling	Design of Highway Geometrics and Drainage


Sem.	Mandatory Learning Course (MLC#) - Audit Course	
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IV (Audit Course - II)	Course Code	230UPOB02_04
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