



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 (Cybersecurity)

(Effective from AY: 2023-24)



JSPM University Pune

FACULTY OF SCIENCE & TECHNOLOGY

SCHOOL OF BASIC AND APPLIED SCIENCES

FIRST YEAR MASTER OF SCIENCE
(CYBER SECURITY)

COURSE STRUCTURE
(NEP 2020 Aligned)

W. E. F

2023-2024

RELEASE DATE

01/07/2023

REVISION NO.

0.0 (NEP)

SEMESTER I (LEVEL – 6.5)

COURSE		TEACHING SCHEME	EXAMINATION SCHEME AND MARKS											M A R K S	C R E D I T S	
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)	Assign-ments (40 Marks)							
PCC	230GCAM01_01	Data Structure and Algorithm	2	1	-	2	30	30	40	100	-	-	-	-	100	3.5
PCC	230GCAM02_01	Foundations of Artificial Intelligence	3	-	-	-	30	30	40	100	-	-	-	-	100	3
PCC	230GCYM01_01	Computer Operating Systems and Security	2	-	-	-	30	30	40	50	-	-	-	-	50	2
PCC	230GCYM02_01	Computer Networking and Security	3	-	-	-	30	30	40	100	-	-	-	-	100	3
SEC	230GCAM15_01	Programming in Java	2	-	2	-	-	-	-	-	50	50	50	50	100	3
VSC	230IDCB01_01	Design Thinking and Creativity	1	-	-	2	-	-	-	-	-	-	50	50	50	1.5
AEC	230UENM01_01	Communicative English for Professionals	1	-	2	-	30	30	40	50	-	-	-	-	50	2
RMC	230IRMM01_01	Research Methodology	2	-	-	-	30	30	40	50	-	-	-	-	50	2
LC	230GCAM17_01	Data Structure and Algorithm Lab	-	-	2	-	-	-	-	-	50	50	-	-	50	1
LC	230GCAM18_01	Foundations of Artificial Intelligence Lab	-	-	2	-	-	-	-	-	50	50	-	-	50	1
TOTAL			16	1	8	4					50	50	50	50	100	1
															750	22

Mr. Ikram Ali
Programme Coordinator, MSc-Cyber Security

Dr. G. A. Patil
Director, School of Computational Sciences

Dr. R. S. Deshpande
Dean, Faculty of Science and Technology
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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SEMESTER II (LEVEL - 6.5)

COURSE		TEACHING SCHEME				EXAMINATION SCHEME AND MARKS										C R E D I T S		
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)		M A R K S			
			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	230GCYM03_02	Foundations of Cyber Security and Cryptography	2	1	-	-	30	30	40	100	-	-	-	-	100	3		
PCC	230GCAM05_02	Foundations of Machine Learning	2	-	-	2	30	30	40	100	-	-	-	-	100	2.5		
PCC	230GCYM04_02	Internet of Things and Security	3	-	-	-	30	30	40	100	-	-	-	-	100	3		
PCC	230GCYM04_02	Internet of Things and Security	3	-	-	-	30	30	40	100	-	-	-	-	100	2		
MMC	-	Multidisciplinary Minor Course	2	-	-	-	30	30	40	100	-	-	-	-	100	2		
SEC	230GCYM17_02	Cyber Security with Python	2	-	2	-	-	-	-	-	50	50	50	50	100	3		
VSC	230IINB02_02	Innovation	1	-	-	2	-	-	-	-	-	-	50	50	50	1.5		
AEC	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	230GCYM18_02	Foundations of Machine Learning Lab	-	-	2	-	-	-	-	-	50	50	-	-	50	1		
IITP/FP/CEP	230GCYM19_02	Internship/Field Project/Community Engagement Program	4 to 6 weeks				-	-	-	-	-	-	-	50	50	50	2	
TOTAL			15	1	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 a total of 8 additional credits.

a) An internship / OJT of 8 - 10 weeks (4 credits) over and above semester 2 internship of minimum 4 weeks.

b) Additional one Course of 4 credits (Course offered will be Vocational Skill Course (VSC) or Skill Enhancement Course (SEC) or a mini project)

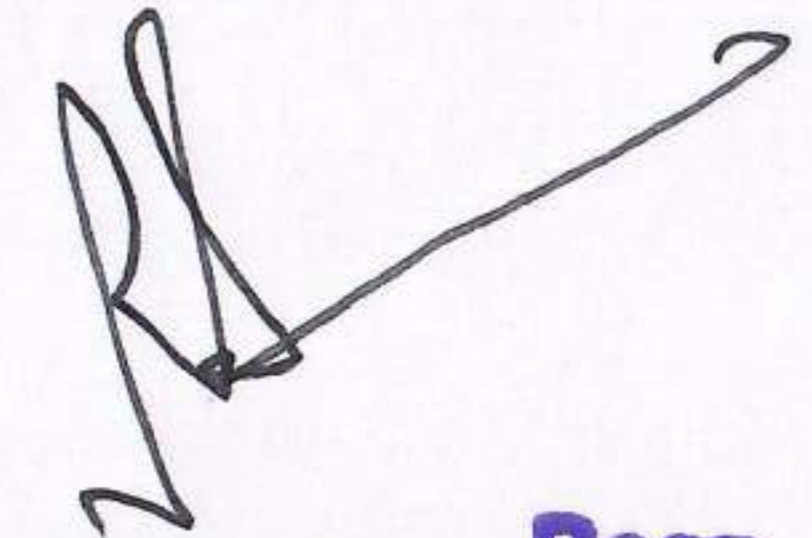
Sem.	Multidisciplinary Minor Course (MMC)					
II	Course Code	230HFSB06_02	230VOSM26_02	240GCEB37_02	230UPYB04_02	250UPOM10_02
	Course Name	Forensic Science in Criminal Investigations	Project Management	Smart Transportation System	Positive Psychology	Global Challenges
III	Course Code	230HFGM26_03	230VBCB17_03	250UPOM10_03	230UHIB04_03	230VBCB19_03
	Course Name	Digital Investigations and Cyber Forensics	Elements of Company Law	Global Challenges	Making of the Modern Indian	Risk and Insurance Management



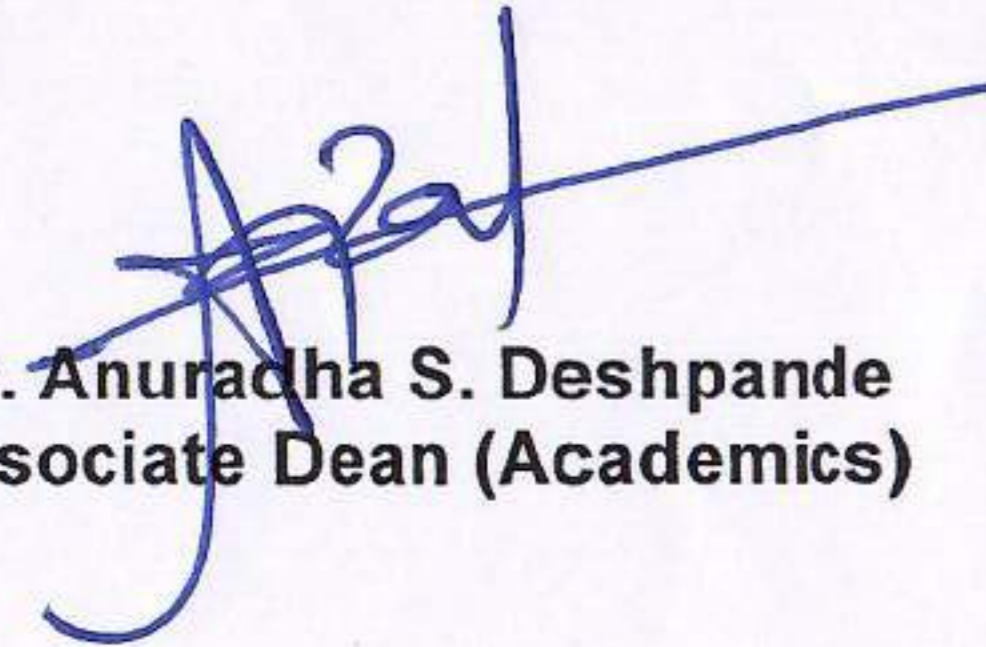
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Programme Coordinator, MSc-Cyber Security



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Dean, Faculty of Science and Technology
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(NEP 2020 Aligned)

W. E. F

2024-2025

RELEASE DATE

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REVISION NO.

0.0 (NEP)

SEMESTER III (LEVEL - 7.0)

COURSE			TEACHING SCHEME				EXAMINATION SCHEME AND MARKS								C R E D I T S	
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)		M A R K S		
			L	T	P	EL	CONTINUOUS INSEMESTER EVALUATION (100/25 Marks)			END SEMESTER EXAMINATI ON (100 / 75/ 50 Marks)	CONTINUO US INSEMEST ER EVALUATI ON (50 Marks)	END SEMESTER EXAMINATI ON (50 Marks)	CONTINUO US INSEMEST ER EVALUATI ON (50 Marks)			END SEMESTER EXAMINATI ON (50 Marks)
							T1 (30 Marks)	T2 (30 Marks)	Assign- ments (40 Marks)							
PCC	230GCYM05_03	Wireless and Mobile Network Security	2	1	-	-	30	30	40	100	-	-	-	-	100	3
PEC	---	Programme Elective Course -I	3	-	-	-	25			75	-	-	-	-	100	3
PEC	---	Programme Elective Course -II	3	-	-	-	25			75	-	-	-	-	100	3
MMC	---	Multidisciplinary Minor Course	1	-	2	-	-	-	-	-	50	50	50	50	100	2
IOC	---	Interdisciplinary Open Course	2	-	-	-	30	30	40	100	-	-	-	-	100	2
VEC	230USYB01_03	Behavioral Science and Ethics	2	-	-	-	30	30	40	50	-	-	-	-	50	2
LC	230GCYM20_03	Wireless and Mobile Network Security Lab	-	-	2	-	-	-	-	-	50	50	-	-	50	1
IITP/ P/CE P	230GCYM21_03	Internship/Field Project/Community Engagement Program	-	-	8	-	-	-	-	-	-	-	100	100	100	4
TOTAL			13	1	12	0							100	100	700	20

Sem.	Interdisciplinary Open Course (IOC)				
III	Course Code	230HFGM28_03	230VBCB14_03	250ULBB03_03	230GMEB63_3
	Course Name	Impression Forensics	E-Commerce	Cybersecurity Law and Policy	Energy Audit and Management
	Course Code	230HFGM27_03	230VMSM05_03	230UPYB34_03	230VBCB16_03
	Course Name	Investigative Skills	Fundamentals of Financial Management	Psychology at Workplace	Financial Fraud

Sem.	Multidisciplinary Minor Course (MMC)					
II	Course Code	230HFSB06_02	230VOSM26_02	240GCEB37_02	230UPYB04_02	250UPOM10_02
	Course Name	Forensic Science in Criminal Investigations	Project Management	Smart Transportation System	Positive Psychology	Global Challenges
III	Course Code	230HFGM26_03	230VBCB17_03	250UPOM10_03	230UHIB04_03	230VBCB19_03
	Course Name	Digital Investigations and Cyber Forensics	Elements of Company Law	Global Challenges	Making of the Modern Indian	Risk and Insurance Management

Sem.	Program Elective Course (PEC)					
	Specialization	AI and ML	Data Science	Network Security and Privacy	Cyber Forensics	Advance Technologies
III	Course Code	230GCAM08_03	230GDIM21_03	230GCYM06_03	240GCYM36_03	240GCYM45_03
	Course Name	Fundamentals of Soft Computing	Introduction to Data Science	Cyber Security and Privacy	Digital Forensics Fundamentals	Quantum Cryptography
III	Course Code	230GCAM09_03	230GDIM22_03	230GCYM07_03	240GCYM37_03	240GCYM46_03
	Course Name	Introduction to Deep Learning	Foundations of Big Data Analytics	Practical Cyber Security for Cyber Security Practitioners	Network Forensics	Social Media Engineering
IV	Course Code	230GCAM10_04	230GDIM23_04	231GCAB13_04	240GCYM38_04	240GCAM34_04
	Course Name	Fundamentals of Natural Language Processing	Data Warehousing and Mining	Computer Networks and Internet Protocol	Mobile Device Forensics	Blockchain Technologies
IV	Course Code	230GCAM11_04	230GDIM24_04	240GCYM44_04	240GCYM39_04	240GCYM47_04
	Course Name	Foundations of Brain Computer Interface	Advanced Data Visualization and Analytics	Cryptography and Network Security	Cloud Forensics	Human Computer Interaction

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SEMESTER IV (LEVEL – 7.0)

COURSE			TEACHING SCHEME				EXAMINATION SCHEME AND MARKS								M A R K S	C R E D I T S
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			L	T	P	EL	CONTINUOUS INSEMESTER EVALUATION (100/25 Marks)			END SEMESTER EXAMINATION (100 / 75/ 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)	Assign-ments (40 Marks)							
PEC	---	Programme Elective Course-III	3	-	-	-	25			75	-	-	-	-	100	3
PEC	---	Programme Elective Course-IV	3	-	-	-	25			75	-	-	-	-	100	3
PROJ	230GCYM22_04	Project/ Internship with Project	-	-	24	-	-	-	-	-	-	-	200	200	200	12
TOTAL			6	0	24	0								400	18	
MLC#	-	Audit course	1	-	-	-	-	-	-	50	-	-	-	-	50	1

Mandatory Learning Course (MLC#) Audit Course	
Course Code	230UPOB02_04
Course Name	Introduction to Constitution of India

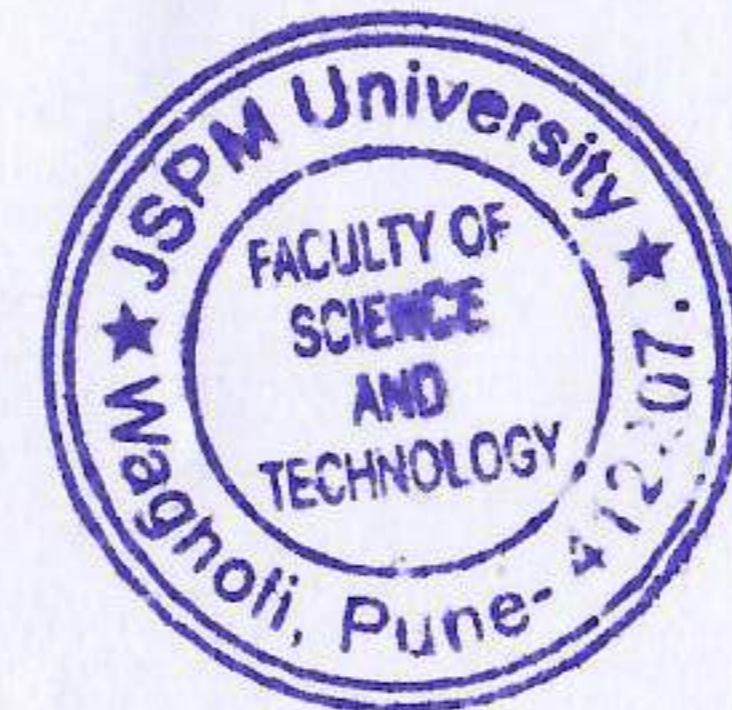
Sem.	Program Elective Course (PEC)					
	Specialization	AI and ML	Data Science	Network Security and Privacy	Cyber Forensics	Advance Technologies
III	Course Code	230GCAM08_03	230GDIM21_03	230GCYM06_03	240GCYM36_03	240GCYM45_03
	Course Name	Fundamentals of Soft Computing	Introduction to Data Science	Cyber Security and Privacy	Digital Forensics Fundamentals	Quantum Cryptography
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