

Maulana Azad National Institute of Technology, Bhopal – 462003
WATER MANAGEMENT CENTRE

M. Tech in Water Resources Engineering and Management

SCHEME OF STUDY (wef July 2021)

First Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
WR 511	Computational Techniques in Water Resources	3	-	-	3
WR 512	Advanced Hydraulics	3	-	-	3
WR 513	Irrigation Management for Sustainable Development	3	-	-	3
WR 514	Water Resources Assessment and Modeling	3	-	-	3
	Elective 1(A)	3	-	-	3
	Elective 2 (B)	3	-	-	3
HUM 511	Communication Skills	2	-	-	2
WR 515	Lab Practice 1	-	-	2	1
WR 516	Seminar 1			2	1
Total Hours: 24 Total Credits: 22		Total Semester Credits			22

Second Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
WR 521	Integrated Watershed Management	3	-	-	3
WR 522	Impact of Climate Change on Water Resources	3	-	-	3
WR 523	Ground water Engineering and Management	3	-	-	3
	Elective 3 (A)	3	-	-	3
	Elective 4 (A)	3	-	-	3
	Elective5 (C)	3	-	-	3
MTH 524	Research Methodology	1	1	-	2
WR 525	Lab Practice 2	-	-	2	1
WR 526	Seminar 2	-	-	2	1
Total Hours: 24 Total Credits: 44		Total Semester Credits			22

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Third Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
WR 611	Dissertation Phase - I	-	-	32	16
Total Hours: 32 Total Credits: 60		Total Semester Credits			16

Fourth Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
WR 621	Dissertation Phase - II	-	-	40	20
Total Hours: 40 Total Credits: 80		Total Semester Credits			20

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List of Program Electives A		List of Open Electives C	
WR 551	Stochastic Hydrology	ARP - 581	Introduction to Urban Planning
WR 552	Flood and Drought Management	BSE – 581	Bioprocess Engineering
WR 553	Rural and Urban Water Management	BSE – 582	Biophysics Tools and Techniques
WR 554	Water Conveyance System Development and Operation	CHE – 581	Analytical Techniques
WR 555	Design of Hydraulic Structures	CHE – 582	Green Technology & Processes
WR 556	Economics of Water Resources Projects	CSE – 581	Machine Learning
WR 557	Reservoir Planning and Management	CSE – 582	Advanced Data Structures and Algorithms
WR 558	IoT in Water Infrastructure	PHY – 581	Nanotechnology and Nanoscience
WR 559	Water Harvesting, Recycling and Reuse	EE – 581	Electric Machines & Applications
WR 560	River Engineering	EE – 582	Control and Instrumentation
WR 561	Dam Engineering	ECE – 581	Introduction to Fuzzy Logic
WR 562	Environmental Impact Assessment and Legislation	ECE – 582	Neural Networks and its Applications
		EC - 581	Energy Resource Technologies
		HUM – 581	Intellectual Property Rights for Engineers
		HUM – 582	Applied Psychology: Human Centered Design and Engineering
		MTH – 581	Advanced Operations Research
		MTH – 582	Computing Technologies
List of Departmental Electives B		ME – 581	Value Engineering
GI 512	Basics of Remote Sensing Technology	ME – 582	Design Thinking
HY 511	Computational Fluid Dynamics	ME - 583	Mechatronics and NDT in Engineering
HY 513	Hydro Power Potential Assessment	MME – 581	Advanced Instrumentation Methods for Material Analysis
GE 512	Advanced Foundation Engineering	MME – 582	Smart Materials and their Application
		MBA-581	Engineering Startup Management