

Department Name: Water Engineering and Management

Integrated MTECH Programme Name: IWEM

SEMESTER-I		
Course Code	Course Name	Credit
ENG 110040	English	3
EVS 110060	Environmental Science	3
PHY 110021	Engineering Physics-I	3
CHM110030	Engineering Chemistry-I	3
MAT 110010	Engineering Mathematics-I	3
WEM 111050	Engineering Mechanics	4
COM 120040	Fundamentals of Computing	3
WEM 112130	Engineering Mechanics Lab	1
PHY 112080	Engineering Physics lab	1
CHM112090	Engineering Chemistry lab	1
WEM112120	Engg. Drawing and Graphics	2
SEMESTER-II		
Course Code	Course Name	Credit
PHY 121020	Engineering Physics-II	3
CHM121030	Engineering Chemistry-II	3
MAT 121010	Engineering Mathematics-II	3
WEM 121130	Mechanics of Materials and Solids	4
EEN 121050	Basics of Electrical Engg.	3
EEN 121060	Principles of Energy Conversion	3
WEM 122140	Mechanics of solid Lab	1
PHY 122110	Engineering Physics lab	1
CHM 122120	Engineering Chemistry-lab	1
EEN 122150	Electrical Engg. lab	1
EEN 122160	Workshop Practice	2
SEMESTER-III		
Course Code	Course Name	Credit
WEM 211010	Fluid Mechanics	4
WEM 211080	Numerical Methods & Computation Techniques	3
EEN 211050	Basics of Electronics & Comm. Engg.	3
WEM 211060	Civil Engineering Materials	4
WEM 211030	Engineering Geology	3
LRM 210100	Disaster Management	3
WEM212110	Fluid Mechanics Lab	1
WEM 212100	Civil Engineering Materials lab	1

WEM 212090	Engineering Geology lab	1
EEN212130	Electronics Lab	1
SEMESTER-IV		
Course Code	Course Name	Credit
WEM 221010	Hydraulics	4
WEM 221020	Surveying	4
WEM 221070	Design of RCC Structures-I	4
WEM 221040	Building Construction	4
WEM 221050	Structural Analysis-I	4
WEM 221060	Civil Engg Drawing	2
WEM 222070	Hydraulics lab	1
WEM 222080	Surveying lab	1
SEMESTER-V		
Course Code	Course Name	Credit
WEM315080	Project Management Techniques	4
WEM315020	Geo informatics	4
WEM315010	Steel Structures Design	4
WEM315040	Structural Analysis-II	4
WEM315050	Civil Engineering Estimating and Costing	3
WEM315060	Transportation Engineering	4
WEM312100	Transportation Engineering Lab	1
WEM312080	Geo informatics Lab	1
WEM312070	Steel Structures lab	1
SEMESTER-VI		
Course Code	Course Name	Credit
WEM321020	Finite Element Methods	3
WEM321030	Engineering Hydrology	4
WEM321070	Design of RCC Structures-II	4
WEM321040	Geotechnical Engineering	4
WEM321050	System Analysis Techniques	4
WEM322070	Structure analysis Lab	1
WEM322080	Geotechnical Engineering Lab	1
WEM322090	Concrete structure lab	1
SEMESTER-VII		
Course Code	Course Name	Credit
WEM411020	Irrigation and Drainage Engineering	4
WEM411060	Pressurized Irrigation System	3
WEM411030	Water and Wastewater Engineering	4
WEM411070	Open Channel and Fluvial Hydraulics	4

WEM411080	Ground Water Hydrology	4
WEM412060	Irrigation Engineering Lab	1
WEM412070	Water Quality Lab	1
WEM414080	Projects and Seminar*/Dissertation**	5
WEM414090	45 days summer training & presentation	1
SEMESTER-VIII		
Course Code	Course Name	Credit
WEM421010	Design of Hydraulic Structures	4
WEM421060	Modelling in WRE	3
WEM421050	Watershed Management	3
WEM421070	River Engineering	3
WEM422010	Modelling in WRE Lab	1
WEM424040	Projects and Seminar*/Dissertation	10
SEMESTER-IX		
Course Code	Course Name	Credit
	Elective I	3
	Elective II	3
WEM 514010	Seminar	1
WEM 514020	Dissertation	15
SEMESTER-X		
Course Code	Course Name	Credit
WEM 524010	Dissertation	20
LIST OF ELECTIVES		
	Elective I	
WEM511020	Statistical Analysis	3
WEM511030	Water Resources Planning and management	3
WEM511010	Advanced Hydrology	3
WEM511040	Flood Forecasting and Disaster Management	3
WEM511050	Geomatics in Water Resources Planning and Management	3
WEM511060	Land & Water Engineering and Management	3
WEM511070	National water policies and law	3
	Elective II	
WEM511080	Coastal Engg	3
WEM511090	Environmental Impact Assessment in WR projects	3
WEM511100	Planning and Development of Hydropower	3
WEM511110	Climate change and impact on WR	3
WEM511120	Flood Protection in Lowland Areas	3

WEM511130	Earthquake resistant design	3
WEM511140	Hydropower Engineering	3

MTECH (2Yrs) Programe Name: Water engineering and Management

SEMESTER-I		
Course Code	Course Name	Credit
WEM/611010	Advanced Numerical Methods	4
WEM/611020	Hydraulics of Open Channels	4
WEM/611030	Advanced Hydrology	4
WEM/611040	Design of Hydraulic Structures	4
WEM/	Elective I	4
WEM/613060	Seminar I	1
WEM/612070	Hydraulics of Open Channels Lab	1
SEMESTER-II		
Course Code	Course Name	Credit
WEM/621010	Water Resources Planning and Management	4
WEM/621020	Integrated River Basin Planning and Management	4
WEM/621030	Advanced Irrigation and Drainage Engineering	4
WEM/624040	Preparation of Water Resources Projects	2
WEM/	Elective II	4
WEM/	Elective III	4
WEM/623070	Seminar-II	1
WEM/622080	Advanced Irrigation and Drainage Engineering Lab	1
SEMESTER-III		
Course Code	Course Name	Credit
WEM/614010	Dissertation Stage -1 (to be continued next semester)	16
SEMESTER-IV		
Course Code	Course Name	Credit
WEM/624010	Dissertation Stage -II (continued from III semester)	16
	Electives for Semester – I	
WEM616010	Sediment Transportation	4
WEM616020	Ground Water Hydrology	4
WEM616030	Hydropower Engineering	4
WEM616040	Pressurized Irrigation Systems	4
WEM616050	Application of GIS and RS in WRE	4

WEM616060	Statistical Analysis	4
WEM616070	Flood Forecasting and Flood Hazard Management	4
	Electives for Semester – II	
WEM626010	Water Quality Assessment	
WEM626020	Earth and Rock fill Dam	
WEM626030	Watershed Development and Management	
WEM626040	Flow Through Pores Media/ Theory of Seepage	
WEM626050	Impacts of Climate Change in Water Resources	
WEM626060	Strom Water Management	
WEM626070	Diffusion and Dispersion in Streams and Rivers	

PhD Programme Name: Water Engineering and Management

SEMESTER-I		
Course Code	Course Name	Credit
WEM911010	Research Methodology	4
WEM	Elective	4
	List of electives	
	Water Resources Planning and Management	4
	Water Resources Economics	4
	Planning and Development of Hydropower	4
	Waste Water Engineering and Management	4
	Ground Water Development & Management	4
	Planning and Design of Masonry and Concrete Dams	4
	Modern methods of Irrigation	4
	Open Channel Hydraulics	4
	Advance River Engineering	4
	Watershed Management Techniques	4
	Climate change and impact on WR	4
	Flood Protection in Lowland Areas	4
	Earth and Rockfill Dam	4

	Flood Forecasting and Disaster Management	4
	Applied Hydrology	4
	Water Law, Policies and Auditing	4
	Land and Water Engg Management	4