ALTERNATE HYDRO ENERGY CENTRE
M.TECH. (ENVIRONMENTAL MANAGEMENT OF RIVERS AND LAKES)

Teaching Scheme					Contact Hours/Week			Exam Duration		Relative Weight (%)				
S. No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
1st YEAR					**Semester- I (Autumn)**									
1.	HRE-523	Integrated Management of water bodies	PCC	4	3	1	2/2	3	-	20	20	20	40	-
2.	HRE-525	Aquatic Ecology	PCC	4	3	1	2/2	3	-	20	20	20	40	-
3.	HRE-544	Project Formulation and Implementation	PCC	4	3	1	-	3	-	25	-	25	50	-
4.		Programme Elective-I*	PEC	4	-	-	-	-	-	-	-	-	-	-
5.		Programme Elective-II*	PEC	4	-	-	-	-	-	-	-	-	-	-
		Total		20	9	3	2							
Semester-II (Spring)														
1.	HRE-527	Laboratory Course	PCC	2	-	-	3	-	3	-	50	-	-	50
2.	HRE-554	Waste Water Collection, Treatment and Disposal	PCC	4	3	1	-	3	-	25	-	25	50	-
3.	HRE-700	Seminar	SEM	2	-	-	-	-	-	-	-	100	-	-
4.		Programme Elective-III*	PEC	4	-	-	-	-	-	-	-	-	-	-
5.		Programme Elective-IV*	PEC	4	-	-	-	-	-	-	-	-	-	-
		Total		16	3	1	3							
2nd YEAR					**Semester- I (Autumn)**									
1.	HRE-701A	Dissertation Stage–I (to be continued in next semester)	DIS	12	-	-	-	-	-	-	-	-	100	-
		Total		12										
Note: Students can take 1 or 2 audit courses as advised by the supervisor, if required.														
Semester-II (Spring)														
1.	HRE-701B	Dissertation Stage–II (contd. From III semester)	DIS	18	-	-	-	-	-	-	-	-	100	-
		Total		18										
		Total Credits	**66**											

Program Elective Courses (EMRL)

Teaching Scheme					Contact Hours/Week			Exam Duration		Relative Weight (%)				
S. No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
1.	HRE-517B	Modeling, Simulation and Computer Applications	PEC	4	3	1	2/2	3	-	20	20	20	40	-
2.	HRE-518	Environmental Planning and Management	PEC	4	3	1	-	3	-	25	-	25	50	-
3.	HRE-540	Solar Photo-Voltaic Design and Application	PEC	4	3	1	-	3	-	25	-	25	50	-
4.	HRE-542	Energy Conservation and Management	PEC	4	3	1	-	3	-	25	-	25	50	-
5.	HRE-550	Application of RS & GIS in Environment Management	PEC	4	3	1	-	3	-	25	-	25	50	-
6.	HRE-552	Hydrology and Modeling of water bodies	PEC	4	3	1	-	3	-	25	-	25	50	-
7.	HRE-556	Environmental Laws, Public Participation and Institutional Development	PEC	4	3	1	-	3	-	25	-	25	50	-
8.	HRE-558	Coastal Pollution Monitoring and Impact Assessment	PEC	4	3	1	-	3	-	25	-	25	50	-
9.	HRE-576	Planning and Management of Environmental Facility	PEC	4	3	1	-	3	-	25	-	25	50	-
10.	HRE-580	Climate Change and water resources	PEC	4	3	1	-	3	-	25	-	25	50	-
13.	CEN-603	Industrial and Hazardous Waste Management	PEC	4	3	1	-	3	-	25	-	25	50	-
12.	CEN-604	Environment Impact & Risk Assessment	PEC	4	3	1	-	3	-	25	-	25	50	-
11.	CEN-605	Solid Waste Management	PEC	4	3	1	-	3	-	25	-	25	50	-
14.	HYN-527	Ground Water Hydrology	PEC	4	3	1	-	3	-	25	-	25	50	-
15.	HYN-531	Watershed Behavior & Conservation Practices	PEC	4	3	1	-	3	-	25	-	25	50	-
16.	HYN-542	Urban Hydrology	PEC	4	3	1	-	3	-	25	-	25	50	-
17.	HRE-587	Advanced Modelling for Renewable Energy Power Systems	PEC	4	3	0	2/2	3	2	15-30	20	15-25	30-40	-

Pre-PhD Courses:

1.	HRE-901	Circular Economy for Renewable Energy	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
2.	HRE-902	Wastewater Resource Recovery	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-

3.	HRE-903	Energy Recovery from Solid Waste	PEC	4	3	1	-	3	-	20 - 35	-	20 - 30	40 - 50	-
4.	HRE-904	Fuel Cells	PEC	4	3	1	-	3	-	20 - 35	-	20 - 30	40 - 50	-