Curriculum M.Sc. in Water Industry Engineering

Year	Course no.	Sem.	Course name	Lecture hours/sem.	Exercise hours/sem.	Laboratory hours/sem.	Credit points
Compulsory Course -10 credit points							
1	19-111	2	Mathematical models in water processes	4			4
1	19-112	2	Basics of System Engineering and its application in water engineering	2	2		3
1	19-110	2+3	Research Methodologies in Water Engineering	2		2	3
Elective Course – 20 credit points							
1	19-114	2	Water Technology Innovation, from Ideation to Commercialization	2			2
1	19-115	2	Biofilm reactors	2			2
1	19-116	2	Mathematical and Statistical models in water systems	2			2
1	19-123	2	Advanced design of water treatment plants	2	1		2.5
1	19-120	2	Data Science in Water Systems	2			2
1	19-124	2	Biofilms in aqueous environments and water industries	2		1	2.5
1	19-117	2	Modeling and Simulation of Environmental Processes (Water and Wastewater)	2	1		2.5
1	19-119	3	Industrial wastewater treatment and reuse	2	1		2.5

			using membrane technology				
1	19-121	3	Anaerobic wastewater treatment	2			2
1	19-122	3	Advanced Material Engineering for Water Applications	2			2
1	19-127	3	Microbial diversity and activity in the water industries: importance and implications	2	1		2.5
1	19-113	3	Advanced Physicochemical Technologies for Water and Wastewater Treatment	2			2
1	19-118	4	Fundamentals and Applications of UV Processes for water and wastewater treatment	2			2
2	19-125	4	Microbiology Engineering Processes	2	1		2.5
2	19-128	4	Advance treatments for municipal effluents	2			2
Seminar – 3 credit points							
2	19-126	4	Advanced seminar in water processes	3			3
Final Project – 10 credit points							
2	19-220	4	Project in water processes			20	10

Key for calculating credit

Weekly lecture time – 1 credit point. Weekly exercise / laboratory – 0.5 credit points. Seminar – 3 credit points Final Project – 10 credit points

The minimum credit points that a student is required to take during the program is 43. The minimum Weekly Hours that a student is required to take during the programme is 23.5

General curriculum structure

	Required Credit Points	Credits are offered per semester		
		B (Spring)	C (summer)	D (Fall)
Compulsory Course	10	9	1	0
Elective Course	20	15.5	9	6.5
Seminar	3	0	0	3
Final Project	10	0	0	10
Total	43	24.5	10	19.5