

ENVIRONMENTAL & WATER RESOURCES ENGINEERING TRACK – EWRE

FALL			SPRING		
CE XXXX	EWRE Core (1)	3	CE XXXX	EWRE Core (1)	3
CE XXXX	EWRE Core (1)	3	CE XXXX	EWRE Core (1)	3
	SSRR Elective (2)	3		SSRR Elective (2)	3
	Technical Elective (2)	3		Technical Elective (2)	3
	Technical Elective (3)	3		Technical Elective (3)	3
15			15		

(1) EWRE Core – students must complete at least four of the following courses.

CE 5020	Introduction to Geographic Information Systems
CE 5240	Groundwater Hydrology and Contaminant Transport
CE 6130	Advanced Geotechnical Engineering
CE 6220	Water Chemistry for Environmental Engineering
CE 6230	Hydrology
CE 6260	Environmental Microbiology and Biological Waste Treatment
CE 6500	Physicochemical Processes
EVGE 5850	Geochemistry
SYS 6070	Environmental Systems Processes <i>(not approved for students with a BS in CE)</i>

(2) Systems, Sustainability, Resilience, and Risk (SSRR) electives – students must complete two courses from the following list:

ARCH 5150	Global Sustainability
CE 5000	Large-Scale Project Management
CE 5500	GIS Resilience
CE 6009	The Art and Science of Systems Modeling
CE 6030	Green Engineering and Sustainability
CE 6250	Environmental Systems Modeling and Management
CE 6500	Hydroinformatics
EVSC 7559	Coastal Resilience
SYS 6001	Introduction to Systems Analysis and Design
SYS 6050	Risk Analysis

(3) Technical electives may include any technical course at or above the 5XXX level, as approved by the student’s adviser. One of these may constitute a research or professional internship (i.e., CE 6995 - refer to the CE website for more details).

(4) Pre-requisites of the EWRE track include: college calculus through Ordinary Differential Equations, college chemistry, and college physics; plus, Introduction to Environmental Engineering (CE 2100 or equivalent), and a class in either water resources engineering (CE 3220 or equivalent) or water/wastewater treatment (CE 3100 or equivalent).

(5) Students may be permitted to modify this framework, pending approval of their academic advisor and the CE Director of Graduate Studies. Additionally, online courses from Virginia’s CGEP program may

be suitable to meet the requirements for this degree. See cgep.virginia.gov/courses for current course offerings.