Summary of Course Requirements

*** (Note: Core Courses and Electives listed are for the Engineering The Future Funding Program - Students must also satisfy their University's degree requirements regarding core courses and electives, which may differ from those listed here.)**

	Descriptions for Core Courses (Required)		Elective Courses (must take 3)
Duke University	**CE 241 Physical and Chemical Treatment Processes in Environmental Engineering** Theory and design of fundamental and alternative physical and chemical treatment processes for pollution remediation. Reactor kinetics and hydraulics, gas transfer, adsorption, sedimentation, precipitation, coagulation/flocculation, chemical oxidation, disinfection	**CE 244 Biological Processes in Environmental Engineering** Biological processes as they relate to environmental systems, including wastewater treatment and bioremediation. Concepts of microbiology, chemical engineering, stoichemistry, and kinetics of complex microbial metabolism, and process analyses. Specific processes discussed include carbon oxidation, nitrification/denitrification, phosphorus removal, methane production, and fermentation.	**CE 200 Engineering Data Analysis** **CE202 Applied Mathematics for Engineers** **CE 207 Transport Phenomena in Biological Systems** **CE208 Environmental Transport Phenomena** **CE 241 Physical and Chemical Treatment Procs In Env Engr** **CE 243 Physicochemical Unit ops in Water Treatment** **CE 245 Pollutant Transport Systems** **CE 264 Physico-Bio-Chemical Transformations**