# 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) |
|---|---|---|---|
| **Unversity of California, Los Angeles** | **C&EE 255A. Physical and Chemical Processes for Water and Wastewater Treatment.** Review of momentum and mass transfer; chemical reaction engineering; coagulation and flocculation; granular filtration; sedimentation; carbon adsorption; gas transfer; disinfection; oxidation; and membrane processes. | **C&EE 255B. Biological Processes for Water and Wastewater Treatment.** Lecture, four hours, outside study, eight hours. Prerequisites: courses 254A, 255A, or consent of instructor. Fundamentals of environmental engineering microbiology; kinetics of microbial growth and biological oxidation; applications for activated sludge, gas transfer, fixed-film processes, aerobic and anaerobic digestion, sludge disposal, and biological nutrient removal. | **C&EE 250A Surface Water Hydrology**<br>**C&EE 250B Groundwater Hydrology**<br>**C&EE 250C Math Modeling of Contam. Transport in Ground Water**<br>**C&EE 251 Water Resources Systems Engineering**<br>**C&EE 252 Engrg Econ analysis of Water & Env Planning**<br>**C&EE 253 Math Mdls for Wtr Quality Mgmt**<br>**C&EE 254A Env Aquatic Inorg. Chem.**<br>**C&EE 258A Membrane Separations in Aquat. systems**<br>**C&EE 263A Physics of Env Transport**<br>**C&EE 256A Mass Transfer in Env Systems**<br>**C&EE 256B Contam Transp in Soils and Ground Water**<br>**C&EE 266 Env Biotech** |