The Henry Samueli School of Engineering

Master's Degree Plan of Study: Environmental Engineering

Student Information		
Last name:	First name:	Advisor If any:
Student ID:	Email Contact:	Phone:
Local address:		
Expected graduation date (Quarter/Year):		

Course Work (minimum of 48 units required)

						Thesis Option **At least 28 units must be nonresearch, graduate-level courses**	**Non-thesis Option** **At least 36 units must be nonresearch, graduate-level courses**
Core Requirements*	**Area**	**Course**	**Units**	**Grades**	**Qrt/yr**	☐	☐
	Math					Complete one core course in each of the required area	Complete one core course in each of the required area
	Water Qual & Treat						
	Hydrology/Water Resources						
	Air Quality						
	Energy						
Graduate Electives*						Graduate elective courses should be numbered 200–291	Graduate elective courses should be numbered 200–291
Seminars		CEE295	1			Two units are required	Two units are required
		CEE295	1				
Undergraduate Electives						Up to 10 units can be applied	Up to 10 units can be applied
Research Units						Up to 16 units can be applied	Up to 8 units can be applied
					Units Total		

*See attached list for core and elective courses

Signature of Students: _____ Date: _____

Program Director: _____ Date: _____

2012-2013
7.13.2012

Associate Dean of Engineering: _____ Date: _____

Core Requirement

Students must complete the following core requirements before petition for M.S. degree

Area	Requirements	Course codes
Advanced Mathematics	One of the three	CBEMS230 (Applied Engineering Mathematics I), Fall CEE283 (Mathematical Methods in Engineering Analysis), Fall MAE200A (Engineering Analysis I)
Water Quality and Treatment	One of the two	CEE263 (Advanced Biological Treatment Processes), Spring CEE265 (Advanced Physical-Chemical Treatment Processes), Fall
Water Resources	One of the three	CEE272 (Groundwater Hydrology), Fall CEE 276 (Hydrology), Fall CEE277 (Hydrologic Transport Fundamentals), Spring
Air Quality	One of the two	MAE215 (Advanced Combustion Technology), Spring MAE261 (Air quality modeling), Winter
Energy		CEE264 (Carbon and Energy Footprint Analysis), Spring MAE218 (Sustainable Energy Systems)
Environmental Seminar	Two quarters	CEE 295, Fall, Winter, Spring

Areas of Emphasis

There are four primary area of emphasis within Environmental Engineering: Water Quality and Treatment, Hydrology and Water Resources, Air Quality, and Energy. To achieve the interdisciplinary objectives of the program, students are required to take at least one course from each of the three four primary area of environmental engineering to fulfill the core requirement. Student can take additional elective courses in one of the three four areas or from more than one area. Courses outside of the School of Engineering (i.e. Earth System Science, Public Health, Biological Science) can be used toward elective credits with the approval of the faculty advisor and the graduate director. Courses within each of the emphasis areas in Engineering are listed below.

Elective Courses by Areas of Emphasis

Water Quality and Treatment	Water Resources	Air Quality	Energy
CBEMS 218 (Bioeng. Rec. Orgs.) CEE263 (Adv. Bio. Treat. Proc.) CEE265 (Phys. Chem. Treat. Proc.) CEE260 (Desalination), CEE261 (Appl. Environ Microbio) CEE266 (Water and Wastewater Biotech) CEE267 (Ecol Coastal Waters)	CEE271 (Unsaturated flow) CEE272 (Grndwater Hydr) CEE276 (Hydrology) CEE277 (Hydrol Transport Fundamen), CEE278 (Fluid Mech Open Channels), CEE279 (Hydrologic Comput Modeling) CEE290 (Merging Models and Data)	MAE215 (Adv. Combustion Techno) MAE 231 (Fund. Turbulence) MAE 232 (Atmos. Turb.), MAE 233 (Turb. Free Shear Flows) MAE 261 (Air Pollution Modeling) ESS 220 (Earth System Climatology) ESS 240 (Atm. Chem. Physics)	MAE214 (Fuel-Cell Fundamental and Techno) MAE218 (Sustainable Energy Systems) MAE 260 (Issues Related to Atmos. Proc.) CEE264 (Carbon and Energy Footprint Analysis)