Relationship of Required, Environmental Engineering Technical Elective, and Environmental Engineering Design Elective Courses to BSEnvE Program Outcomes

Program Outcomes By the time of graduation from the BSEnvE degree programs, the students will have obtained:	***EAC/ABET Criterion 3***	Required Courses													EnvE Tech. Elec.				EnvE Des. Elec.			
		COE 2001 Statics	CEE 2040 Dynamics	CEE 2300 Environ. Engr Prin	CEE 3000 Civil Engr Systems	CEE 3020 Civil Engr Materials	COE 3001 Deformable Bodies	CEE 3040 Fluid Mechanics	CEE 3340 Environ Engr Laboratory	CEE 3770 Statistics& Applications	CEE 4090 Capstone Design	CEE 4200 Hydraulic Engineering	CEE 4300 Environmental Engr Sys		CEE 4210 Hydrology	CEE 4405 Geotechnical Engr	CEE 4620 Environ Impact Assess	CEE 4795 Groundwater Hydrology		CEE 4310 Water Quality	CEE 4320 Hazard Substance Engr	CEE 4330 Air Pollution Engr	CEE 4395 Environ Sys Design
1. A broad education and knowledge of contemporary issues necessary to understand the impact of environmental engineering solutions in a global, societal, and environmental context.	h j			H	H	M			L		H		H		H		H	H		H	H	H	H
2. An ability to solve environmental engineering problems in practice by applying fundamental knowledge of biology, chemistry, physics, mathematics, statistics, and engineering principles, and by using modern engineering techniques, skills, and tools.	a k	H	H	H	M	M	H	H	H	H	H	H	H		M	H	H	H		H	H	H	H
3. An ability to identify, formulate, and solve environmental engineering problems, particularly the planning design, implementation, and operation of engineered and natural systems, components, or processes that meet specified performance, cost, time, safety and quality needs, and objectives.	c e	M	M	M	H	H	M	M	M	M	H	H	H		M	H	H	H		H	H	H	H
4. An ability to design and conduct experiments, to analyze and interpret data in air, water, and land systems, and to assess impacts on environmental health.	b j k					H			H		L	H				H							L
5. An ability to convey technical material through oral presentations.	g				H				H		H	H			M			H					H
6. An ability to convey technical material through written papers/reports.	g				H	H			H		H	H			M	H	M	H			H		H
7. An ability to function within multidisciplinary teams.	d				H	H			H		H	H				H					H		H

H = High Level, M = Medium Level, L = Low Level

Relationship of Required, Environmental Engineering Technical Elective, and Environmental Engineering Design Elective Courses to BSEnvE Program Outcomes (continued)

Program Outcomes By the time of graduation from the BSEnvE degree programs, the students will have obtained:	***EAC/ABET Criterion 3***	Required Courses												EnvE Tech. Elec.				EnvE Des. Elec.			
		COE 2001 Statics	CEE 2040 Dynamics	CEE 2300 Environ. Engr Prin	CEE 3000 Civil Engr Systems	CEE 3020 Civil Engr Materials	COE 3001 Deformable Bodies	CEE 3040 Fluid Mechanics	CEE 3340 Environ Engr Laboratory	CEE 3770 Statistics& Applications	CEE 4090 Capstone Design	CEE 4200 Hydraulic Engineering	CEE 4300 Environmental Engr Sys	CEE 4210 Hydrology	CEE 4405 Geotechnical Engr	CEE 4620 Environ Impact Assess	CEE 4795 Groundwater Hydrology	CEE 4310 Water Quality	CEE 4320 Hazard Substance Engr	CEE 4330 Air Pollution Engr	CEE 4395 Environ Sys Design
8. An understanding of professional, societal, and ethical responsibilities.	f			M	H	L			L		H	L	M			L	L	L	L	L	H
9. A recognition of the need for, and an ability to engage in, life-long learning.	i	L	L	L	H	L	L	L	L	L	H	L	M	M		L	L	L	L	L	H
10. An ability to perform environmental engineering design by means of integrated design experiences.									L		H	L						M	M	M	H
11. An ability to apply knowledge of earth sciences, biology, physics, chemistry, and fluid mechanics to environmental engineering systems.	a				M	M		M	H		H	H	H	H	H		H	H	H	H	H
12. An introductory knowledge of environmental issues relevant to air, land, and water systems and associated environmental health impacts.				H	M				H		M		H	H		H	H	H	H	H	H
13. An understanding of the role and responsibilities of public institutions and private organizations pertaining to environmental engineering.									H		M		M			H		H			L

H = High Level, M = Medium Level, L = Low Level