

# ENGINEERING (PH.D.) ENVIRONMENTAL ENGINEERING EMPHASIS

CIV 684	ADVND SITE CHARACTER & INSTRUM	3
CIV 697	INTERNSHIP	1-3
CIV 698	INDEPENDENT STUDY	1-4

**Department:** Civil and Environmental Engineering

**Environmental Engineering:** to equip students with advanced knowledge and skills in the environmental engineering field and produce graduates with competencies in advanced original research, education, and professional practice in environmental engineering.

A minimum of 72 credit hours beyond B.S. or 36 credit hours beyond M.S. degree. Must complete 24 hours of dissertation research, the required core courses, and elective courses. The adviser or the advising committee may recommend additional courses based on the students' background and the proposed research area.

## Core Courses

Code	Title	Hours
Select three of the following: <sup>1</sup>		9
CIV 561	CHEMISTRY FOR ENVIRNL ENGINEER	
CIV 562	HAZARDOUS WASTE ENGINEERING	
CIV 660	PHYCML PROCESSES IN WATER & WT	
CIV 661	BIOL PROCESS IN WASTEWATER ENG	
Graduate level advanced mathematics course <sup>1</sup>		3
<b>Total Hours</b>		<b>12</b>

<sup>1</sup> After consultation and approval of the student's adviser.

## Elective Courses

Code	Title	Hours
CIV 520	ADVANCED ENGINEERING ANAYLS I	3
CIV 521	ADVND ENGINEERING ANALYSIS II	3
CIV 550	ENGINEERING HYDROLOGY	3
CIV 560	ENVIRONMENTAL ENGINEERING II	3
CIV 564	SURFACE WATER	3
CIV 566	AIR POLLUTION	3
CIV 567	ENVIRONMENTAL REMEDIATION	3
CIV 568	LAND DISPOSAL OF WASTE	3
CIV 569	ADVND TPCS IN WATER RESOU ENGE	1
CIV 573	ENVRNMNTL GEOLOGY FOR ENGNS	3
CIV 574	HYDROGEOLOGY	3
CIV 631	LINEAR THEORY OF OCEAN WAVES	3
CIV 632	TIDES AND LONG WAVES	3
CIV 650	SMALL WATERSHED HYDROLOGY	3
CIV 653	ADVND DESIGN OF HYDRAULIC STRUC	3
CIV 666	ADVND WASTE TRTMNT PROC IN ENV	3
CIV 669	ADVND TPC IN ENVRNML ENGINEERG	3
CIV 680	UNSATURATED SOIL MECHANICS	3
CIV 681	EXCAVATION SUPPORT SYSMS & R S	3
CIV 682	COMPUTATIONAL GEOTECHNICS	3
CIV 683	SOIL STRUCTURE INTERACTION	3