

**Master of Science in Earth and Environmental Sciences
Professional Science Masters (PSM) Option (49 units)
Degree Requirements**

Core Courses (41)		
CHEM 610	Advanced Environmental Chemistry	5
GEOG 470	Hydrology and Water Resources	4
GEOL 610	Environmental Geosciences	5
CHEM 690 or GEOL 690	Graduate Seminar in Environmental Sciences Graduate Seminar in Environmental Sciences	2
HSCI 612	Public Health Statistics	4
PA 620	Regulatory Structure, Policies, and Process in Water Law	4
Four units chosen from:		4
ECON 360	Economics of the Environment	
IST 309	Information Systems and Technology	
IST 474	Advanced Data Base Management and Information Assurance	
A minimum of nine units, including one internship and one graduate study, chosen from:		9
CHEM 575A-E	Internship in Chemistry	
CHEM 695D-E	Supervised Graduate Study in Chemistry	
GEOL 575B-D	Internship in Geology	
GEOL 695D-E	Supervised Graduate Study in Geology	
Choose one of the following courses:		4
CHEM 696D	Graduate Project	
CHEM 699	Graduate Thesis	
GEOL 696D	Graduate Project	
GEOL 699	Graduate Thesis	
Elective Courses (8)		
A minimum of 8 units; at least one course must be graduate level.		8
Undergraduate Electives:		
(Some of these elective courses have prerequisites that must be satisfied before the course can be taken)		
BIOL 320	Microorganisms	
BIOL 349	Biology of Ecosystems	
BIOL 450	Ecology	
BIOL 455	Marine Biology and Ecology	
CHEM 345	Modern Quantitative Analysis	
GEOG 306	Remote Sensing of the Environment	

GEOG 308	Advanced Geographic Information Systems
GEOG 350	Conservation and Natural Resources
GEOG 402	Geographic Information Systems Applications
GEOL 375	Groundwater Hydrology
GEOL 376	Field Methods in Hydrology
GEOL 430	Engineering Geology
HSCI 380	Toxicology
HSCI 478	Environmental Health Management
MGMT 335	Business, Ethics, and Society
PA 315	Government-Business Relations
Graduate Electives:	
CHEM 501A	Advanced Laboratory Techniques
CHEM 545	Instrumental Analysis
CHEM 691B-D	Graduate Independent Study
CHEM 697	Advanced Internship
ECON 545	Economics of Water Resources
GEOG 650	Environmental Issues of Land Management
GEOL 510	Scientific Issues in Surface and Groundwater Management
GEOL 550	Earth Resources
GEOL 551	Neotectonics and Seismic Hazard Analysis
GEOL 591	Digital Mapping and GIS for Scientists
GEOL 621	Graduate Geological Mapping
GEOL 630	Environmental Geochemistry
GEOL 635	Low-temperature Geochemistry
GEOL 691B	Graduate Independent Study
GEOL 697	Advanced Internship
HSCI 557	Hazardous Material Control
HSCI 558	Management of Water Quality
HSCI 651	Air Quality Management
PA 672	Administrative Regulation

Total Units

49