

# Environmental Science & Management – Masters Degrees Course Requirements & Course Lists For Students Starting Fall 2022 and After

## Requirements

**MS:** Take at least one course from each core course category plus a second ecological or physical systems course; 4 courses of concentration and electives in science, management, GIS, or other thesis related courses; practicum; 3 seminars; and 6-12 thesis credits. Courses outside the core and special course lists require a DARS exception and approval of the major advisor.

**MEM:** Take at least one course from each category; project management; 4 more courses of concentration and electives in science, management, GIS, or other project related courses; practicum and project management courses; 3 seminars; and 5 project credits. Courses outside the core and special course lists require a DARS exception and approval of the major advisor.

**PSM** Take at least one course from each category; 4 more courses in science, management, GIS, or other project related courses; practicum and project management courses; 3 seminars; 5 project credits; and 10 credits from PLUS Course List. Courses outside the core and special course lists require a DARS exception and approval of the major advisor.

**DARS Exceptions** – Send the following information to the ESM Chair (cc your major advisor): your PSU ID#, your degree, details of the request including course taken and quarter (e.g. Geog 5XX, Fall 2022), the DARS exception you would like made, (e.g., allow Geog 5XX to count for DARS requirement #1 Core: Physical Systems), and the course catalog year you are using (e.g., 2022-2023 MS requirements).

## ESM Masters – Special Courses

Course Number	Typical Quarter	Course Title	Requirement
ESM 509	—	Practicum (not offered; use ESM 555 or 557)	Project Development
ESM 511	F	Intro to Graduate Research Development	Project Development
ESM 555	W	Science Communication	Elective & Supporting
ESM 556	—	Advanced Science Communication (not currently offered)	Elective & Supporting
ESM 557	Sp	Science, Media, and the Public	Elective & Supporting
ESM 507	W	Speakers Seminar	ESM 507 Seminar
ESM 501	By arrangement	Research	Talk to your advisor
ESM 502	By arrangement	Independent Study	Talk to your advisor
ESM 503	By arrangement	Thesis	Thesis (MS)
ESM 504	By arrangement	Internship	Internship (PSM)
ESM 505	By arrangement	Reading & Conference	Talk to your advisor
ESM 506	By arrangement	Project	Project (MEM / PSM)

F=Fall; W=Winter; Sp=Spring; Su=Summer; eo=every other; \*=temporary course number.

## ESM Masters – Core Course List

Course #	Typical Quarter	Course Title	Physical Systems	Ecological Systems	Environmental Management	Advanced Data Analysis
ESM 525	Sp	Watershed Hydrology	x			
ESM 527	eoSp	Watershed Biogeochemistry	x			
ESM 558	eoW	Snow Hydrology	x			
ESM 560	W	Air Quality	x			
ESM 517	Su	Applied Watershed Restoration		x		
ESM 518	F	Landscape Ecology		x		
ESM 520	F	Ecological Toxicology		x		
ESM 524	eoSp	Wetland Ecology		x		
ESM 526	F	Ecology of Stream & Rivers		x		
ESM 544	Sp	Forest Ecology		x		
ESM 575	eoF	Limnology & Aquatic Ecology		x		
ESM 580	Sp	Coastal Marine Ecology		x		
ESM 585	F	Ecology & Management of Bio-invasions		x		
ESM 516	F	Ecosystem Restoration			x	
ESM 528	W	Urban Ecology			x	
ESM 529	Sp	Environmental Impact Assessment			x	
ESM 535	F	Natural Resource Policy and Management			x	
ESM 540	Su	Ecology & Management of Wildfire			x	
ESM 563	W	Water Quality Policy and Management			x	
ESM 564	Sp	Climate Adaptation: Managing Risks & Vulnerability			x	
ESM 583	W	Marine Conservation Science & Management			x	
ESM 587	F	Environmental Justice			x	
ESM 588	F	Environmental Sustainability			x	
ESM 566	F	Environmental Data Analysis				x
ESM 567	W	Multivariate Analysis of Ecological Systems				x

F=Fall; W=Winter; Sp=Spring; Su=Summer; eo=every other.

