

Environmental Management & Protection

LOWER DIVISION

EMP 105. Natural Resource Conservation (3). Broad aspects; history of humanity in relation to land use; human populations in relation to resources; history of conservation movement; present day conservation problems. [GE.]

EMP 109. Shake, Rattle & Roll (3). A critical examination of social organization and planning for natural hazards and events that become disasters with an emphasis on the California North Coast. [Coreq: ENGL 100 or ENGL 100A. GE.]

EMP 210. Public Land Use Policies & Management (3). Overview of public lands: Historical view of major statutes, agency evolution, and resource management policies. [Recommended preparation: EMP 105.]

EMP 215. Natural Resources & Recreation (3). Three primary components: resources, visitors, and management. Motivations and benefits, overview of providers, and fundamental recreation concepts.

EMP 253. Interpretive Computer Graphics (3). Fundamental course in computer graphic design and layout for producing natural resource interpretive displays, flyers, posters, book covers, brochures, newsletters, and multimedia slide presentations. Background in basic computer skills required. [Weekly: two 3-hr labs.]

EMP 270. Global Positioning System Techniques (1). Concepts and use of Global Positioning System (GPS) technologies for way finding and field data collection. Brief examination of interface with GIS. Five week module. [Prereq: ELM score of 42 or higher. Weekly: 2 hrs lect, 3 hrs lab.]

EMP 277. Introduction to Remote Sensing (3). Aerial photography, multispectral and thermal scanning, satellite sensors, digital image processing. Application to inventory of natural resources and planning. Emphasis: image interpretation for terrain and vegetation analysis. [Weekly: 2 hrs lect, 3 hrs lab.]

UPPER DIVISION

EMP 309 / ENVS 309. Environmental Conflict Resolution (3). Introduction to conflict theory as applied in complex natural resource disputes. Skill development in planning culturally appropriate and inclusive public participation processes, meeting facilitation, and conflict mediation. Comparison of options for nonviolent conflict management. [GE. CWT. Weekly: 2 hrs lect, 2 hrs activ.]

EMP 309B. Environmental Communication (3). This course is intended for advanced students who want to learn the basic theories, strategies and techniques used to communicate a body of scientific knowledge to the public in a comprehensible manner. [GE. CWT.]

EMP 310. Introduction to Natural Resource Planning (3). History of resource and land-use planning, planning theory, planning processes, and land development in the US. Overview of current resource and land-use planning processes and techniques at local, regional, state, and federal levels. [Rec: EMP 105 and EMP 210.]

EMP 325. Environmental Law & Regulation (3). Overview of laws, policy, and institutions used to regulate natural resource management and protect the environment. Legal principles; property rights; federal, state, and international environmental legislation; and regulatory authorities. [Prereq: EMP 210 (C). Weekly: 3 hrs lect.]

EMP 350. Fundamentals of Environmental Education & Interpretation (3). Theories, processes, goals of environmental education and interpretation, evolution of disciplines, curriculum standards. Program development techniques for environmental and cultural heritage themes. Skill development in program presentation and evaluation. [Coreq: EMP 351. Weekly: 2 hrs lect, 3 hrs lab.]

EMP 351. Environmental Interpretation Field Trip (1). Visit sites illustrating issues and techniques of natural resources interpretation. [CR/NC. Coreq: EMP 350. Three-day field trip.]

EMP 353. Environmental Education & Interpretation Graphics (3). Theory and skills of written and graphic interpretation techniques. Application to signs, brochures, self-guided trails, exhibits. [Prereq: EMP 253 and EMP 350. Weekly: 2 hrs lect, 3 hrs lab.]

EMP 360. Natural Resource Planning Methods (3). Interdisciplinary methods. Use case studies to explore acquisition, analysis, and application of ecological, economic, and social information for planning at site, landscape, and regional scales. [Prereq: EMP 310. Weekly: 2 hrs lect, 3 hrs lab.]

EMP 376 / SOC 376. GIS for the Social Sciences (4). Application of Geographic Information Systems in social sciences as a tool to collect and analyze qualitative and quantitative data for sociospatial research, and policy development. [Weekly: 3 hrs lect, 3 hrs lab.]

EMP 377. Introduction to GIS Concepts (3). Geographic Information Systems (GIS) mapping concepts including map projections, coordinate systems and datums. Location and incorporation of a variety of data types. View and query spatial data; create layouts and maps. [Prereq: familiarity with Windows environment. Weekly: 2 hrs lect, 3 hrs lab.]

EMP 400 / ENVS 400. Inscape & Landscape (3). An evaluation of individual perception (inscape) of nature (landscape) relative to our unique individual histories. An overview of human population growth, resource consumption, and resource availability will lead to a personal evaluation of the relationship of inscape to landscape. [GE. Weekly: 2 hrs lect, 2 hrs activ.]

EMP 412 / ENVS 412 / PSCI 412. Legal Research (4). Principles and research procedures in California/federal case law, statutory law, and codes. Computerized legal research; legal citation and writing.

EMP 415. Recreation Planning Workshop (3). The planning process as applied to natural resource recreation areas; master planning for parks and other wildland recreation areas; NEPA; public involvement; planning facilities such as trails and campgrounds. [Prereq: EMP 215. Weekly: 2 hrs lect, one 3-hr lab.]

EMP 420. Ecosystem Analysis (3). Measure and characterize physical and biological parameters of land ecosystems. Structure; carrying capacity; stability; vegetation and animal populations. [Prereq: SOIL 260, BIOL 330, FOR 230 or BOT 350; or IA. Weekly: 2 hrs lect, 3 hrs lab.]

EMP 425. Environmental Impact Assessment (3). Legislative/judicial history and current implementation of National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA). Practice analyzing and preparing impact assessments for development projects. [Recommended preparation: EMP 325. Weekly: 2 hrs lect, one 3-hr lab.]

EMP 430. Natural Resource Management in Protected Areas (3). Principles/practices managing natural resources in wildland recreation areas. Fire, air, water quality; erosion; endangered species; exotic species control; hazardous features. Case studies. [Prereq: ecology course or IA. Weekly: 2 hrs lect, 3 hrs lab.]

EMP 435. Grant Proposal Writing (2). Fundamentals of grant proposal writing, from conception of the idea to writing a coherent and persuasive proposal. Combines critical thinking, communication and quantitative reasoning skills, and critical evaluation of proposals. [Weekly: 2 one-hr lect.]

EMP 440. Managing Recreation Visitors (2). Theoretical foundations and practical applications of managing recreation settings and people who visit them. [Prereq: EMP 215.]

EMP 440L. Managing Recreation Visitors Field Trip (1). Field trips to state and national parks and forests. [Prereq: EMP 215. CR/NC.]

EMP 450. Applied Environmental Education & Interpretation (3). Theories, teaching methods, current research, controversial issues. Design of environmental education and interpretation programs for children and adults. Advanced skills in program evaluation. Professional development in environmental education and interpretation. [Prereq: EMP 253, EMP 350, EMP 353; or IA. Weekly: 2 hrs lect, 3 hrs lab.]

EMP 453. Environmental Education & Interpretation Practicum - Graphic (4). Capstone course for interpretation majors with a focus on graphic skills in interpretive programming and design. Projects include exhibits, brochures, and overall interpretive programming. [Prereq: EMP 350, EMP 353, EMP 450; or their equivalents.]

EMP 454. Interpretation Practicum - Oral (2).

This is a capstone course for interpretation majors with a focus on oral interpretation. Students meet with local agencies, schools and organizations with a need for an interpretive education program. Students will design, produce and deliver educational opportunities for the clients. [Prereq: EMP 450. Weekly: Two 3-hour labs.]

EMP 460. Environmental Planning for Public Lands (3).

Environmental planning processes applied by state and federal agencies to manage for desired ecological, economic, and social outcomes on public lands. Key themes: collaborative processes, community involvement, stewardship. [Prereq: EMP 360 and EMP 425 (C), or IA. Weekly: 2 hrs lect, 3 hrs lab; 3-day field trip required. Service fee.]

EMP 465. Rural Community Planning (3).

Integrating community and economic development with land-use planning tools, such as agricultural land/open space preservation and growth management programs in small towns and rural areas dependent on natural resources. [Prereq: EMP 360. Weekly: 2 hrs lect, 3 hrs lab. Service fee.]

EMP 470. Intermediate GIS (3).

Digital mapping and analysis. How GIS data are collected, structured, entered, edited. Analysis procedures/theory. Lab exercises; project. ArcGIS and ArcView GIS environments. [Prereq: EMP 377 or EMP 376, STAT 109 or STAT 108 recommended. Weekly: 2 hrs lect, 3 hrs lab.]

EMP 471. Spatial Analysis Lab Projects (1).

Intended for students with experience in GIS and/or Remote Sensing who require the facilities and software tools available in the Spatial Analysis Lab for special projects or research. This course does not count towards graduation units. [Prereq: EMP 277 (C) or EMP 376 (C) or EMP 377 (C) or EMP 470 (C) or FOR 216 (C). AU. Rep 3 times.]

EMP 475. Senior Planning Practicum (4).

Capstone course: a planning project in a group format. [Prereq: EMP 460 (C) or EMP 465 (C), and graduating senior standing. Weekly: 2 hrs lect, 6 hrs lab.]

EMP 480. Selected Topics (.5-3).

Planning, ecology, administration, law, ethics, or other topics of current interest. [Rep with different topics. Prereq: IA. Variable format.]

EMP 480L. Selected Topics/Lab (.5-3).

Planning, ecology, administration, law, ethics, or other topics of current interest. Lab/field format. Service Fee. [Rep with different topics. May require prereqs.]

EMP 482. Internship (2-3).

Students implement the theory and practice of their major by working for a public agency or private firm/organization. Advanced standing and instructor consent. [CR/NC.]

EMP 485. Senior Seminar (1).

Topics of current interest. [Prereq: junior/senior standing or IA. Rep.]

EMP 499. Directed Study (1-3).

Individualized research/study project. [Prereq: junior/senior standing. Rep.]

GRADUATE**EMP 540. Raster GIS Modeling Techniques Seminar** (3).

Raster analysis techniques in GIS using the ArcGIS environment. Map algebra, interpolation techniques and model integration. Sources and ramification of potential error. Incorporate use of scripting to enhance analytical efficiency. [Prereq: EMP 470 and STAT 109; advanced statistics and EMP 277 recommended. Weekly: 2 hrs lect, 3 hrs lab.]

EMP 550. Advanced Natural Resource Interpretation (3).

Interpretive facility planning, children's interpretation, and management of interpretation. Advanced oral/written interpretation techniques. [Prereq: EMP 253, EMP 350, EMP 353; or IA. Weekly: 2 hrs lect, 3 hrs lab.]

EMP 570. Vector GIS Modeling Techniques Seminar (3).

Vector analysis concepts using the ArcGIS environment including vector regions, dynamic segmentation, networks, and modeling techniques. Incorporate use of scripting to enhance analytical efficiency in the analysis of GIS data. [Prereq: EMP 470 and STAT 109; or equivalent. Statistics highly recommended. Weekly: 2 hrs lect, 3 hrs lab.]

EMP 580. Selected Topics (1-3).

Interpretation, planning, ecology, administration, law, ethics, other topics of interest. [Rep with different topics.]

EMP 597. Mentoring & Teaching-Associate Training (1-4).

Train in course preparation and delivery. Advance majors and grad students take this prior to or concurrent with teaching-assistant or teaching-associate assignments. No credit toward graduate degree.

EMP 620. Ecosystems & Society (3).

Exploration of sustainability science based approaches to an integrated understanding of ecosystems and society and implications for ecological and social resilience, adaptation, and transformation. [Prereq: must have graduate standing.]

EMP 685. Graduate Seminar (1-3).

Topics of current interest. [Rep.]

EMP 690. Thesis (1-4). [Rep. CR/NC.]**EMP 692. Professional Paper** (1-4). [Rep.]**EMP 695. Field Research** (1-4). [Rep. CR/NC.]**EMP 699. Directed Study** (1-4). [Rep.]