460 **Natural Resource Economics**

Spring. 3(3-0) Interdepartmental with Resource Development; Park, Recreation and Tourism Resources; Biosystems Engineering. Administered by Department of Community, Agriculture, Recreation and Resource Studies. P: (EC 201) and (RD 302 or

Economic framework for analyzing natural resource management decisions. Spatial and inter-temporal allocation of renewable and nonrenewable resources. Special emphasis on institutions, externalities, and public interests in resource management.

470 Theory and Practice in Community and **Economic Development**

Spring. 3(3-0) Interdepartmental with Resource Development; Sociology. Administered by Department of Community, Agriculture, Recreation and Resource Studies. R: Open only to juniors or seniors. SA: PRM

Concepts, principles, models, and skills for community and economic development. Community participation in local development initiatives.

490 Independent and Supervised Study

Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 7 credits in all enrollments for this course. P: (EEP 201 or EEP 255) R: Open only to Environmental Economics and Policy majors. Approval of department; application required. SA: PRM

In-depth independent study of topics affecting public resource management. Complementary with previous coursework, adapted to career aspirations.

Professional Internship in Environmental 493 **Economics and Policy**

Fall, Spring, Summer. 3 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course. RB: (EEP 201 and EEP 255) R: Open only to juniors or seniors in the Environmental Economics and Policy major. Approval of department; application required. A student may earn a maximum of 6 credits in all enrollments for any or all of these courses: ABM 493. AEE 493, ANR 493, ANS 493, CSS 493, EEP 493, FIM 493, FW 493, HRT 493, PKG 493, PLP 493, PRR 493, and RD 493. SA: PRM 493

Supervised professional experience in agencies, organizations or businesses related to environmental economics and policy.

ENVIRONMENTAL ENE ENGINEERING

Department of Civil and **Environmental Engineering** College of Engineering

Environmental Toxicology and Society

Spring of odd years. 3(3-0) Interdepartmental with Animal Science; Sociology. Administered by Department of Animal Science. RB: (ISB 200 or ISB 202 or ISB 204 or ISB 206 H or BMB 200 or BS 111 or BS 110)

Impact of environmental chemicals on health and modern society. Cellular and organ functions and their interface with the environment. Limitations of scientific investigation and environmental regula-

Environmental Engineering Seminar

Fall, Spring. 1(1-0) R: Open only to Environmental Engineering majors.

Current research in environmental engineering.

Dynamics of Environmental Systems Spring. 3(3-0)

Principles of mass balance, reaction kinetics, mass transfer, reactor theory in environmental engineer-

802 Physicochemical Processes in Environmental Engineering

Fall. 3(3-0) RB: (ENE 801)

Physical and chemical principles of air and water pollution control and environmental contaminants in water, air and soils.

Biological Processes in Environmental Engineering

Fall. 3(3-0) RB: (ENE 801 or concurrently) Engineering of microbial processes used in wastewater treatment, in-situ bioreclamation, and solid waste stabilization.

Laboratory Feasibility Studies for **Environmental Remediation**

Spring. 3(2-4) RB: (ENE 802 and ENE 804) R: Open only to graduate students in Environmental Engineering, Environmental Engineering-Environmental Toxicology, and Environmental Engineering-Urban Studies. Not open to students with credit in ENE 803 or ENE 805.

Analysis and characterization of contaminants in soil or water. Conceptual and preliminary design of treatment systems. Use of treatability studies to evaluate treatment options. Oral presentations and preparation of consulting reports with design recommendations.

807 **Environmental Analytical Chemistry**

Fall. 3(3-0) R: Open only to Environmental Engineering majors.

Techniques for measurement and analysis in environmental engineering. Sample preparation. Quality

808 **Environmental Analytical Chemistry** Laboratory

Spring. 1(0-3) RB: (ENE 807) R: Open only to Environmental Engineering majors.

Laboratory work in environmental analytical chemis-

880 Independent Study in Environmental Engineering

Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to Environmental Engineering majors.

Solution of environmental engineering problems not related to student's thesis.

Selected Topics in Environmental

Engineering
Fall, Spring, Summer. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. R: Open only to Environmental Engineering majors.

Selected topics in new or developing areas of environmental engineering.

Master's Research Project

Fall, Spring, Summer. 1 to 5 credits. A student may earn a maximum of 5 credits in all enrollments for this course. R: Open only to master's students in the Environmental Engineering major. Approval of department.

Master's degree Plan B individual student research project. Original research, research replication, or survey and reporting on a research topic.

899 Master's Thesis Research

Fall, Spring, Summer. 1 to 8 credits. A student may earn a maximum of 24 credits in all enrollments for this course.

Master's thesis research.

Doctoral Dissertation Research

Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 72 credits in all enrollments for this course.

Doctoral dissertation research.

ENVIRONMENTAL ESP SCIENCE AND POLICY

College of Social Science

Physical, Chemical, and Biological Processes of the Environment

Fall. 3(3-0) RB: Bachelor's or Master's in appropriate discipline for specialization. R: Approval of college. SA: SSC 801

Interdisciplinary concepts in the natural sciences related to environmental problems. Ecology and human health.

802 **Human Systems and Environment**

Fall. 3(3-0) RB: Bachelor's or Master's in appropriate discipline for specialization. R: Approval of college. SA: SSC 804

Anthropological, economic, geographical, legal, political, and sociological concepts of human systems and environmental change.