

Acceptable examples of courses at CSUF that meet the ecology and quantitative methods ENST Program prerequisites

ECOLOGY	QUANTITATIVE METHODS
<p>BIOLOGY 274 Principles of Physiology & Ecology (5 units with lab) Prerequisites: Biology 273 and Chemistry 120A or consent of instructor; Math 130, 150A or 337 suggested. Principles of organisms' interactions with their environments; physiological and evolutionary mechanisms of change in response to environmental factors; population and community ecology; energy and material flow through ecosystems. 3 hours lab, 6 hour lab/field work. Weekend field trips may be required.</p>	<p>BIOLOGY 436 Advanced Applied Statistics (4) Prerequisite: Math 337 or 338. Linear models, including mixed models, applied to experimental and field data from current research projects. Poisson and logistic regression. Emphasis on model fitting and checking; use of permutation tests as needed. Presentation of results suitable for publication. 3 hours lecture, 3 hours lab.</p>
<p>BIOLOGY 300 Environmental Biology (3) Prerequisite: Biology 101 or equivalent. Biological consequences of human intervention in ecosystems: Endangered and threatened species, pollution impact on organisms, pest control, population dynamics, genetic engineering of agricultural species, management of natural areas and urban ecosystem dynamics.</p>	<p>GEOGRAPHY 485 Geographical Information Systems (3) Prerequisites: Geography 481 or equivalent. Integrated computer assisted methods for handling spatial data, including database design, data conversion and updating, information retrieval, analysis, modeling and mapping. Instructional fee.</p>
<p>BIOLOGY 314 Evolutionary Ecology (4) Prerequisite: completion of Biology lower-division core. The integration of evolutionary and ecological principles. Includes the nature and causes of variation, population genetics, life histories, adaptation, evolution of behavior, ecology of interspecific interactions, paleoecology and life through time, and the interplay between ecology and phylogeny. 3 hours lecture, 3 hours lab/field work.</p>	<p>MATH 338 Statistics Applied to Natural Sciences (4) Prerequisite: Math 130 or 150B or consent of instructor. Introduction to the theory and application of statistics. Elementary probability, estimation, hypothesis testing, regression, analysis of variance, non-parametric tests. Computer-aided analysis of real data. Graphical techniques, generating and interpreting statistical output, presentation of analysis. 3 hours lecture, 2 hours activity.</p>
<p>BIOLOGY 319 Marine Biology (3) Prerequisite: Biology 101 or equivalent. Survey of marine plants and animals in their habitats.</p>	<p>POLITICAL SCIENCE 407 Polls, Statistics and Political Interpretation (3) Quantitative research methods in political science. Introduction to research design and statistical measures employed in analyzing social science research data.</p>
<p>GEOGRAPHY 120 Global Environmental Problems (3) A geographical analysis of the Earth's principle environmental problems. Subjects include population growth, agriculture and pesticides, climate change, forestry and fishing, endangered species, and appropriate development.</p>	<p>SOCIOLOGY 302 Social Research Methods (3) Prerequisite: Sociology 101 or consent of instructor. Topics include: research design, methods of gathering data, the role of theory in research, sampling methods and problems, data processing and analysis.</p>
<p>GEOGRAPHY 350 Nature & Society (3) An exploration of the interface between human systems and natural systems. The course covers a variety of factors affecting human interaction with the earth, including environmental ethics, public policy and technology.</p>	<p>SOCIOLOGY 303 Statistics for the Social Sciences (3) Prerequisite: Sociology 101 and Math 110 or equivalent or consent of instructor. The techniques for the elementary statistical analysis of social data. Description and inferential measures include tests, chi-square, analysis of variance, contingency table analysis and linear regression.</p>