COASTAL ECOLOGY
Group Contract, 12 units, Spring Quarter 1991
Faculty Sponsors: Dr. Julie Ambler & Dr. Peter Taylor

This program was about the habitats, adaptations, and interrelationships of the plants and animals of coastal marine environments. The modes of study included lectures, reading, seminars, field studies, and written assignments.

Lectures, reading, and a seminar were organized into two-week topical segments on rocky shores, unconsolidated shores (one week), subtidal (kelp forests, seagrass beds, and soft-bottom benthos), estuaries (including salt marshes), and tropical habitats (coral reefs and mangrove forests). The texts for assigned reading were Marine Biology: An Ecological Approach (J.W. Nybakken 1988), The Northwest Coast: A Natural History (S.T.Schultz 1990), and Seashore Life of the Northern Pacific Coast (E.N. Kozloff 1983). The seminar was based on selected research and review articles, one or two each week, relating to the week's featured topics. The articles were made available to everyone prior to the seminar. Each student was expected to write a paper for each of the five segments, variously summarizing or synthesizing information, or focusing on a particular subtopic, from the reading, lectures, and seminar.

Another seminar was based on articles about coastal ecology selected and presented by the students. Each student made one presentation, and three or four were scheduled each seminar, with time for questions and discussion.

Marine organisms were featured in poster sessions for which each student researched and produced a poster to present, in text and illustrations, a biological/ ecological "profile" of species selected from a list of Pacific Northwest coastal invertebrates and fishes.

The field studies utilized the college's beach (Eld Inlet, South Puget Sound), and trips were made to other coastal sites in Washington. The field trips were to Grays Harbor (shorebirds in migration, tidalflats and salt marsh), Ocean City State Park (ocean beach), Tongue Point Marine Nature Preserve (rocky shores/ Strait of Juan de Fuca), and Tolmie State Park (sandflats and beach seining/ South Puget Sound). Each student was expected to write observational fieldnotes and interpretive discussions for the first three field-trip sites.

Working in teams of 2-4 persons, the students undertook research projects based on field studies of the college's beach. Each team chose one or more species, or a particular habitat, on which to focus an ecological survey. The surveys generally employed transect-quadrat sampling methods, and were conducted on one or two days of suitably low tides. The analyses and interpretation of the data were supported by weekly sessions in the Computer Applications Laboratory (CAL), in which was taught the use of QUATTRO PRO and SPSS for graphical and statistical analyses. The level of statistical instruction and uses depended upon the students' respective backgrounds, and variously included computations of means, standard deviations, 95% confidence limits, and linear regressions. The project teams used the computer-supported methods to produce reports of their research.