

## **ST / Fishery Stock Assessment Methods FW 599**

**Credit hours:** 4

(HMSC lectures televised to main campus, main campus lectures plus computer labs)

**Term offered:** Winter alternate years, next offered 2008

**Instructor:** Sampson

**Course Objectives:** (1) To explore in detail some of the techniques used for assessing exploited populations of fish and other biological resources. (2) To provide students with an understanding of the assumptions and mathematics underlying stock assessment techniques. (3) To illustrate applications of stock assessment methods through the development and use of computer spreadsheet programs.

**Course Contents:**

- Overview of the stock assessment process, its relation to fishery management.
- Basic fisheries equations.
- Fitting models to data.  
Least-squares, maximum likelihood, and Monte Carlo methods.
- Using catch-at-age data.  
Virtual Population Analysis, Cohort Analysis, and separable VPA.
- Collecting the catch-at-age data; survey sampling methods.
- Statistical catch-at-age methods.
- Catch and effort methods.
- Biomass dynamics models.
- Management advice.

**Prerequisites:** None, but completion of the following is recommended: General Ecology (BI 370) or equivalent; Introduction to Statistical Methods (ST 352) or equivalent.

**Text:** No text is assigned. Collections of recommended and supplemental reading material will be on reserve at the Guin Library at the Hatfield Marine Science Center and at the Valley Library on the main campus.

**Term Papers:** None.

**Testing:** One mid-term exam, a final exam, and homework problems.

**Students for whom the course is intended:** Fisheries graduate students, but the course is also available to students in the Marine Resource Management and other programs.

**Course Website:** <http://oregonstate.edu/instruct/fw599/sampson/>