

**135. Field Studies (1)**

Prerequisite: permission of instructor. A six-day field trip, during the Easter recess, covering the north coast wineries to study the techniques and handling methods employed by the many vintners.

**165. Wine Technology (3) (Former V 160)**

Prerequisite: permission of instructor. Technological study of winery equipment; evaluation, location, and operation; sanitation procedures. (2 lecture, 3 lab hours; 3- or 4-day field trip)

**175. Winery Management (3) (Former V 171)**

Prerequisite: permission of instructor. Physical properties of a winery; administrative organizational set-up; personnel; purchasing, packaging, and shipping; local, state, and federal regulatory statutes.

**FOOD SCIENCE (F Sci)****1. Food Science and World Food Problems (3)**

Modern food processing; world food problems; basic characteristics of processed foods.

**100. Food Appraisal and Evaluation (3)**

Prerequisite: Math 29, F Sci 1 or permission of instructor. Analysis, measurement, and methods used in evaluation of organoleptic, kinesthetic, and other quality factors in foods. (2 lecture, 3 lab hours)

**110. Food Chemistry (3)**

Prerequisite: Chem 8 (or concurrent), or permission of instructor. Composition, structure, and properties of food; chemistry of changes occurring during processing and utilization.

**120A-B. Food Engineering (3-3)**

Prerequisite: Phys 2A-B, physical chemistry, or permission of instructor. (A) Laws of thermodynamics, closed and open (control volume) systems; thermodynamic properties; thermodynamic cycles, phase, and chemical equilibria; gas dynamics. (B) Fluid flow, heat transfer, convection, radiation, heat exchangers. (2 lecture, 3 lab hours)

**130. Food Analysis (3)**

Prerequisite: 1 year of general chemistry, qualitative analysis. Principles of food analysis; sampling, separation, physical measurements, chemical and biochemical techniques. (2 lecture, 3 lab hours)

**140A-B. Food Processing (3-3)**

Prerequisite: F Sci 110; Chem 8 (or concurrent), or permission of instructor. (A) Food preservation by heat, low temperature, dehydration, fermentation, and radiation. (B) Sanitation and control of microbiological problems involved in processing and storing foods; case studies. (B: 2 lecture, 3 lab hours)

**170. Food Microbiology I (3)**

Prerequisite: Micro 20. Control of microorganisms in production and handling of foods; microbiological methods of examining foods.

**171. Food Microbiology II (2)**

Food spoilage organisms and microbiological methods of examining foods. (1 lecture, 3 lab hours)

**191. Food Science Literature (1)**

Prerequisite: senior standing. Review of recent literature.