

**187. Advanced Viticulture (3)**

Prerequisite: permission of instructor. Relating the various cultural techniques to the physiology of the grape vines; effect of these techniques on vine health and vigor; economics and management of vineyards. (2 lecture, 3 lab hours; 3-day field trip)

**SOILS (Plant)**

**108. Soils (3) (Former Plant 130)**

Prerequisite: high school chemistry or Chem 2A (Chem 2B or 2C concurrent). Physical and chemical properties of soils as a medium for plant growth; factors that influence soil formation; evaluation of current studies including food production, soil map interpretation, fertilizer use, soil's role in the biosphere. (3 lecture hours, 1 Saturday field trip)

**108L. Soils Laboratory (1) (Former Plant 130L)**

Prerequisite: Plant 108 (or concurrently). Physical, chemical and biological analysis. Interpretation of field and laboratory data. (3 lab hours)

**118. Soil Classification and Survey (3) (Former Plant 120)**

Prerequisite: Plant 108. Influence of environmental factors on soil development; description and identification of soil profiles and mapping, interpretation of survey data. (2 lecture, 3 lab hours)

**128. Soil Management (3) (Former Plant 150)**

Prerequisite: Plant 108. Factors affecting soil fertility, management of soils, attaining continuous optimum productivity. Physical, chemical, and field tests on soil productivity and crop management. (2 lecture, 3 lab hours; 1 Saturday field trip)

**138. Soil Fertility (3) (Former Plant 152)**

Prerequisite: Chem 2A-B and 3 units of soils. Evaluation of plant nutrient status of soils, chemistry of the nutrient elements, soil and plant tissue analyses and interpretation, fertilizer use. (2 lecture, 3 lab hours)

**IRRIGATION (Plant)**

**59. Irrigation (3) (Former Plant 50)**

Methods of irrigation adapted to the San Joaquin Valley; water requirements of various crops and methods of application. (2 lecture, 3 lab hours; 1 week end field trip)

**119. Ornamental Horticulture Irrigation (3) (Former Plant 170T section)**

Prerequisite: Plant 59, 108; senior standing or permission of instructor. Design, installation, and operation of irrigation systems used for ornamental plants, turf areas, nurseries, and greenhouse operations. (2 lecture, 3 lab hours; 1 Saturday field trip)

**129. Field Crop Irrigation (3) (Former Plant 170T section)**

Prerequisite: Plant 59 or 108; senior standing or permission of instructor. Design, installation and operation of irrigation systems for field, vine, and tree crops. (2 lecture, 3 lab hours; 1 Saturday field trip)