

243. Metabolism and Energy Physiology (3)

Prerequisite: Chem 8. Current aspects of the integral processes involved in metabolism and energy physiology of laboratory and farm animals. Application of the principles concerned in intermediary metabolism. Selected readings in the current literature within the field.

244. Vitamin and Mineral Nutrition (3)

Prerequisite: A Sci 70. A survey of the biochemical and physiological importance of vitamins and minerals in the nutrition of man and his animals. Included is the diagnosis, prevention and treatment of both vitamin and mineral deficiencies.

245. Advanced Animal Breeding (3)

Prerequisite: A Sci 100, 110; Chem 2A; permission of instructor. The application of genetic principles to the breeding of livestock and poultry. The study of applied selection and measurements of the results.

250T. Topics in Plant Science (3; max total 12)

Prerequisite: upper division plant science appropriate to study topic, permission of instructor. Advanced studies in a given area: crop physiology, plant breeding, plant pathology, plant nutrition, or economics.

251. Physiological Aspects of Herbicides (3)

Prerequisite: Plant 131, Bot 104, Chem 8. Modes of action of herbicides in plant growth. Absorption and translocation of herbicides. Mechanisms of herbicide specificity. Interaction with soil and soil microbes. Methods of herbicide investigations (biological assay, instrumental detection, chemical assay, chemical and microbial degradation). (2 lecture, 3 lab hours)

252. Plant Nutrition (3)

Prerequisite: Bot 104. Mineral requirements of plants; the acquisition and translocation of nutrients by higher plants and the role of nutrient elements in plant development. (2 lecture, 3 lab hours)

255. Advanced Plant Breeding (3)

Prerequisite: Plant 140. Principles and techniques of plant improvement, breeding methods, combining ability, sterility systems, quantitative genetic analysis, heritability estimates, experimental designs for plant breeding.

256. Plant-Water Relationships (3)

Prerequisite: Bot 104. Physicochemical properties of water and solutions; movement of water, solutes, and growth regulators in plants; study of moisture-sensitive periods of various crops; factors affecting water absorption and retention.

257. Physiology of Cultivated Crops (3) (Former Ag 250.7)

Plant cell structure and function. Response of cultivated plants to the environment. Physiology and hormonal control of flower induction, fruit set, and development. Review of pertinent current publications.

260. Seminar in Animal Science (1; max total 4)

Prerequisite: permission of instructor. Written and oral reports on selected areas of research on problems in animal science.

270. Seminar in Plant Science (1; max total 4)

Prerequisite: permission of instructor. Reviews and reports on recent literature and problems in agronomy, horticulture, irrigation, soils, ornamental horticulture, or viticulture and enology.

280. Seminar in Agriculture (1-3; max see below)

Maximum total credit 9 units in any given area or any combination of the three areas. Prerequisite: bachelor's degree in agriculture or permission of instructor.