HISTORY OF ART

See Art.

HORTICULTURE HRT

College of Agriculture and Natural Resources

201. Fruits, Vegetables, and Ornamental Plants for Outdoor Home Plantings
Spring. 4(3-2)
Principles and practices used in producing fruits, vegetables, flowers, trees, shrubs and vines in small gardens, containers, and the home landscape. Indices for edible quality of home grown fruits and vegetables.

211. Ornamental Trees and Narrow-leaved Evergreens
Fall. 4(2-4)
Identification, adaptation and evaluation of trees, deciduous shrubs, narrow-leaved evergreens and woody vines. Emphasis is on the asthetic and functional uses of trees and shrubs in the landscape.

212. Ornamental Flowering Shrubs and Broad-leaved Evergreens
Spring. 4(2-4)
Identification, adaptation and evaluation of trees, deciduous shrubs, broad-leaved evergreens, woody vines and ground covers. Emphasis is on the flowering characteristics and aesthetic and functional uses of plants in the landscape.

221. Commercial Plant Propagation
(421.) Winter. 4(3-2)
Principles of plant propagation by seed, cuttage, layerage, and graftage employed by nuseries; use of growth regulators and environmental treatments in plant propagation.

230. Indoor Plants and Flowers
(323.) Fall, Winter, Spring. 3(1-4) Horticulture majors will be required to learn scientific names of plants.
Identification, culture and propagation of plants; principles of flower arrangement, construction of dish gardens and hanging baskets, and the forcing of bulbs.

320. Tree Fruit Production
Fall. 4(3-2) Juniors.
Commercial production of principle tree fruit crops of Michigan with emphasis on planting, soil management, fertilization, pruning, thinning, and grafting.

324. Mass Merchandising Ornamental Plants
Spring. 2(1-2) HRT 211 or HRT 212.
History of merchandising ornmental plants; types of garden centers, impact of cultural information and labeling on consumer. The manager, advertiser, and buyer decision making process. One day field trip required.

325. Ornamental Plant Management
Spring. 4(3-2) HRT 211 or HRT 212.
Transplanting and maintenance of landscape plants subject to stresses of urban environment. Development of annual maintenance specifications. Identification and evaluation of herbaceous annuals, biennials and perennials for landscape.

330. Special Problems
Fall, Winter, Spring, Summer. 1 to 4 credits. May reenroll for a maximum of 12 credits. Approval of department.
Individual work on a field, laboratory or library research problem of special interest to the student.

331. Selected Topics
Fall, Winter, Spring, Summer. 1 to 4 credits. May reenroll for a maximum of 12 credits if different topic is taken. Approval of department.

350. Floral Design
Spring. 2(0-4) Junior majors and approval of department.
Principles of floral design and the care and handling of materials. Creation of corsages, terraria, tropical planters, and home, hospital and novelty arrangements.

402. Principles of Weed Control for Horticultural Crops
Fall of odd-numbered years. 4(3-2) CEM 132, BOT 301.
Principles underlying weed control practices for horticultural crops. Factors involved in mechanical, chemical and biological control.

408. Principles of Plant Breeding
Winter. 4(3-2) CSS 250. Interdepartmental with and administered by the Department of Crop and Soil Sciences.
Application of genetics and other sciences to breeding and improvement of agronomic and horticultural crops.

411. Fruit and Landscape Crop Physiology I
Fall. 4(3-2) Juniors.
Physiological effects of moisture and nutritional environments related to fruit crops and woody perennial plants.

412. Fruit and Landscape Crop Physiology II
Winter of odd-numbered years. 3(3-0) Juniors, BOT 301, not open to students with credit in HRT 807 or HRT 808.
Physiology of flowering and fruit development in woody plants with special reference to chemical and cultural methods of manipulation.

416. Handling and Storage of Horticultural Crops
Winter. 4(4-0) Juniors.
Biological principles involving physical movement of fresh products from farm to consumer; physiological processes affecting maturity, quality and condition; selection and use of handling, storage, and transport facilities.

417. Controlled Plant Environment
Fall. 3(3-0) BOT 301 or BOT 414.
Control of greenhouse environment and its effect on growth and production of horticultural crops.

418. Controlled Plant Environment Laboratory
Fall. 2(1-2) HRT 417 or concurrently.
Experiments in the morphology and physiology of greenhouse crops. Crop production and the use of greenhouse equipment.

419. Small Fruit Production
Winter. 3(3-0) Juniors.
Commercial production culture, utilization and physiology of strawberries, grapes, blueberries and raspberries.

424. Pesticide and Growth Regulating Chemicals for Horticultural Crops
Spring. 3(2-2) Juniors.
Spray and dust equipment and application; pesticide and growth regulating chemicals, their use in the growing of horticultural crops, and influence on the physiology of the plant.

433. Greenhouse Cut Flower and Foliage Plant Production
Spring of even-numbered years. 4(3-2) May reenroll for a maximum of 8 credits. HRT 418 or approval of department.
Principles of cut flower and foliage plant physiology; emphasizes production management.

434. Greenhouse Container-Grown Plant Production
Winter. 4(3-2) HRT 418 or approval of department.
Principles of flower crop physiology; management of container-grown plant production.

440. Nursery Management
Fall. 3(2-2) Juniors.
Management practices applied to wholesale nursery production and marketing. One all-day field trip to visit nurseries is reqired.

452. Warm Season Vegetables
Spring. 3(3-0) BOT 301, CSS 210.
Warm season vegetable crops with emphasis on botany, taxonomy, morphology, growth processes, production, harvesting, handling, quality and composition.

453. Warm Season Vegetables Laboratory
Spring. 1(0-2) HRT 452 or concurrently.
Identification of seeds and plants and factors affecting germination, sex expression, permature flowering, bulb and tuber formation.

456. Cool Season Vegetables
Fall. 3(3-0) BOT 301, CSS 210.
Cool season vegetable crops with emphasis on botany, taxonomy, morphology, growth processes, production, harvesting, handling, quality and composition.

457. Cool Season Vegetables Laboratory
Fall. 1(0-2) HRT 456 or concurrently.
Mineral nutrition, fertilizer placement and sources, herbicide action, weed competition, plant identification and post-harvest conditions for vegetables.

801. Research Procedures in Plant Science
Winter. 4(3-2) Approval of department.
Orderly approach to problems of biological research in relation to basic principles of research.

807. Physiology of Horticultural Crops I
Fall. 4(3-2) BOT 415.
Physiology and biochemistry of bulbous crops; morphological aspects and techniques of horticultural crops; sex expression and seed production.

808. Physiology of Horticultural Crops II
Winter. 4(3-2) BOT 415.
Physiology of grafting, juvenility, flowering of woody plants, fruiting, senescence, bud and seed dormancy as related to horticultural crops. Emphasis on critical review of literature.

809. *Physiology of Horticultural Crops III*
Spring. 4(3-2) BOT 415.
Physiology of abscission, winter hardiness, water and nutrient relations, crop productivity and problems concerned with crop production.

810. *Seminar*
Fall, Winter. 1(0-1)

825. *Post Harvest Physiology*
Spring. 4(3-2)
Biochemical and biophysical changes associated with the maturation, ripening and senescence of harvested horticultural plants.

830. *Special Research Problems*
Fall, Winter, Spring, Summer. Variable credit. May reenroll for a maximum of 12 credits. Approval of department.

831. *Selected Topics*
Fall, Winter, Spring, Summer. 1 to 4 credits. May reenroll for a maximum of 12 credits if different topic is taken. Approval of department.

899. *Master's Thesis Research*
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

951. *Cytogenetics in Plant Breeding*
Winter of odd-numbered years. 3(3-0) BOT 427, BOT 828, or approval of department. Interdepartmental with and administered by the Department of Crop and Soil Sciences.
Application of cytogenetic principles to plant breeding. Significance of recombination, role of induced mutations, polyploid, chromosome substitution, and aneuploid analyses as they apply to the field of plant breeding.

999. *Doctoral Dissertation Research*
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

HOTEL, RESTAURANT AND INSTITUTIONAL MANAGEMENT HRI

College of Business

102. *Introduction to the Service Industries*
Fall. 3(3-0) Not open to Seniors.
Management careers and opportunities in hotel, motel, food service, health facilities, club, recreational centers, tourism and other public hospitality businesses. Includes front office practice. Local field trip required.

203. *Service Industry Accounting*
(303) Fall, Spring. 4(4-0) AFA 202; not open to Seniors.
Principles of accounting applied to service industries. Financial statement analysis and cash flow concepts. Managerial accounting emphasized.

237. *Management of Lodging Facilities*
Fall, Winter, Spring. 4(4-0) Sophomore majors.
An analysis of the guest cycle through examination of various operating departments within a hotel. Functions of revenue and nonrevenue departments with emphasis on managing departmental interrelationships.

245. *Food Production Science*
Fall, Spring. 4(4-0) HNF 100.
Interrelationships of the physical, biological and chemical principles relevant to the food service industry.

252. *Professional Experience I*
Fall, Winter, Spring, Summer. 1 credit. Approval of school.
A written report based on prior 400 hours of approved professional work experience in the hospitality industry.

261. *Dimensions of Tourism*
Fall, Winter. Summer of odd-numbered years. 4(4-0) EC 201 or concurrently; not open to Seniors.
Forces which influence the international and domestic hospitality, leisure, travel and recreation industries. Socio-economic models and measurement of regional impact, demand and supply.

265. *Food Production Standards*
Fall, Spring. 4(4-0) HRI 245.
Interrelationships of the environmental, microbiological and physiological principles relevant to the food service industry.

307. *Supervision in the Hospitality Industry*
Fall, Winter, Spring. Summer of even-numbered years. 4(4-0) HRI 237, MGT 302.
The direction of people at work in the hospitality industry. Special applications of supervisory management skills in hotels, restaurants and other hospitality industry establishments.

335. *Service Industries Equipment and Utilities*
(235.) Fall, Winter. Summer of even-numbered years. 4(4-0) MTH 108 or MTH 111; HRI 237.
Engineering in food and lodging industry, emphasizing utilities, machinery characteristics and environment.

337. *Management Systems for the Hospitality Industry*
Winter, Spring. Summer of even-numbered years. 4(4-0) CPS 110, EC 200.
Evaluation and appraisal of management systems currently in use and the development of new management systems for the hospitality industry.

353. *Professional Experience II*
Fall, Winter, Spring, Summer. 1 credit. HRI 252, approval of school. Must be completed before enrollment for final term of the senior year.
A written report based on prior 400 hours of approved professional work experience in the hospitality industry.

375. *Marketing of Hospitality and Travel Services*
Fall, Winter, Spring, Summer. 4(4-0)
Applications of marketing concepts, methods and techniques in the hospitality and travel sector. Uses and limitations of various promotional forces such as advertising, field selling, merchandising, sales promotion, and in-house selling.

392. *Managerial Finance for the Hospitality Industry*
Fall, Winter, Spring. 4(4-0) AFA 391, HRI 203.
Basic financial concepts applied to the hospitality management industry. Methods of expansion; franchises, condominiums, leases and management contracts. Financial aspects of feasibility studies. Financial ratios specific to the hospitality industry.

405. *Food and Beverage Management*
Winter, Spring. Summer of even-numbered years. 4(4-0) HRI 265, HRI 203.
Duties and responsibilities of the manager in restaurant and catering operations. Management methods in goal setting, forecasting, controlling quality and costs; establishing policies to create favorable acceptance and profitable operations.

435. *Food Production Systems*
Fall, Winter, Spring. Summer of even-numbered years. 6(4-6) FSC 242, HRI 405.
Recognition and achievement of quality in development of systematic relationships between menu items, time, labor, equipment and costs in quantity food production. Quality procurement policies for food, beverages and related items. Field trips required.

455A. *Food Evaluation*
Spring. 4(4-0) Approval of school.
History of foods and related physiological and psychological theories and their application to quality consideration.

455B. *Beverage Evaluation*
Fall. 4(4-0) Approval of school.
History of beverages and related physiological and psychological theories and their application to quality considerations.

462. *Tourism Management*
Winter. 4(4-0) HRI 261.
Tourism organizations, functions, and policy determination, tour wholesaling and retail travel agency management. Field trip required.

463. *Tourism Distribution Management*
Winter. 4(4-0) HRI 261.
Component channels of the tourism distribution system. Functional interrelationships of these channels with emphasis on increasing distribution effectiveness. Field trips required.

466. *Tourism Planning and Development*
Fall, Spring. 4(4-0) HRI 261.
Tourism resource characteristics, location, and market demand considerations. Analysis of development potential, planning processes and procedures, capital and personnel requirements, and tourism destination developments.

472. *Design and Layout*
Winter, Spring. 4(4-0) HRI 335.
Conceptualization, design, layout and specification of service industry facilities.