

855. **The Industrial Revolution in Europe**
Winter of even-numbered years. 3 credits. EC 318, 324. Interdepartmental with and administered by the Economics Department. The preconditions that led to the momentous changes in agriculture and industry in Europe from 1700-1914.
857. **Readings in Renaissance and Reformation**
Fall, Winter, Spring. 4 credits.
863. **Readings in Early Modern European History**
Fall, Winter, Spring. 4 credits.
864. **Readings in Recent European History**
Fall, Winter, Spring. 4 credits.
867. **Readings in Russian History**
Fall, Winter, Spring. 4 credits.
873. **Readings in the History of International Relations**
Fall, Winter, Spring. 4 credits.
894. **Readings in African History**
Fall, Winter, Spring. 4 credits.
897. **Readings in Asian History**
Fall, Winter, Spring. 4 credits.
899. **Research**
Fall, Winter, Spring. Variable credit. Approval of department.
913. **Seminar in American Colonial History**
Fall, Winter, Spring. 5 credits.
914. **Seminar in the Era of the American Revolution and Constitution**
Fall, Winter, Spring. 5 credits.
915. **Seminar in the Age of Jackson**
Fall, Winter, Spring. 5 credits.
916. **Seminar in the Era of the American Civil War and Reconstruction**
Fall, Winter, Spring. 5 credits.
917. **Seminar in the American West**
Fall, Winter, Spring. 5 credits.
918. **Seminar in the Populist and Progressive Era**
Fall, Winter, Spring. 5 credits.
923. **Seminar in Twentieth Century American History**
Fall, Winter, Spring. 5 credits.
924. **Seminar in American Constitutional History**
Fall, Winter, Spring. 5 credits.
925. **Seminar in American Social and Intellectual History**
Fall, Winter, Spring. 5 credits.
926. **Seminar in American Social and Economic History**
Fall, Winter, Spring. 5 credits.
927. **Seminar in American Foreign Policy**
Fall, Winter, Spring. 5 credits.
929. **Seminar in Afro-American History**
Fall, Winter, Spring. 5 credits.
930. **Seminar in American Urban History**
Fall, Winter, Spring. 5 credits.
952. **Seminar in Ancient History**
Fall, Winter, Spring. 5 credits.
954. **Seminar in the Renaissance**
Fall, Winter, Spring. 5 credits.
955. **Seminar in the French Revolution and Napoleon**
Fall, Winter, Spring. 5 credits.
957. **Seminar in Russian History Before 1800**
Fall, Winter, Spring. 5 credits.
958. **Seminar in Modern Russian History**
Fall, Winter, Spring. 5 credits.
959. **Seminar in East European History**
Fall, Winter, Spring. 5 credits.
960. **Seminar in English History to 1688**
Fall, Winter, Spring. 5 credits.
961. **Seminar in Modern British History**
Fall, Winter, Spring. 5 credits.
965. **Seminar in Early Modern European History**
Fall, Winter, Spring. 5 credits.
966. **Seminar in Modern European History**
Fall, Winter, Spring. 5 credits.
967. **Seminar in Modern European Intellectual History**
Fall, Winter, Spring. 5 credits.
968. **Seminar in Modern French History**
Fall, Winter, Spring. 5 credits.
969. **Seminar in Modern German History**
Fall, Winter, Spring. 5 credits.
973. **Seminar in European International Relations**
Fall, Winter, Spring. 5 credits.
988. **Seminar in West African History**
Fall, Winter, Spring. 5 credits.
989. **Seminar in East African History**
Fall, Winter, Spring. 5 credits.
992. **Seminar in China in the Traditional Period**
Fall, Winter, Spring. 5 credits.
993. **Seminar in Modern China**
Fall, Winter, Spring. 5 credits.
996. **Historical Interpretation**
Fall, Winter, Spring. 1 credit. May re-enroll for a maximum of 9 credits. Approval of department. Open only to teaching assistants in history.
Supervised direction in preparation and conduct of a teaching assignment required of all doc-

toral candidates. Student will work under the direction of a regular faculty member. Doctoral candidates must enroll in three terms of this course while fulfilling required teaching assignment.

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

HISTORY OF ART

See Art

HORTICULTURE HRT

College of Agriculture and Natural Resources

201. **Fruits and Vegetables for Home and Garden**
Spring. 3(2-2)
Principles and practices used in producing fruits and vegetables for the home in small gardens and containers; guidance in how to determine the edible quality of fresh fruits and vegetables.
211. **Landscape Plants I**
Fall. 4(1-6).
Adaptation, identification, and evaluation of narrow-leaved evergreens, deciduous shrubs and trees, and woody vines, as they are used in the landscape. Emphasis is placed on the seasonal interest of the plants studied.
212. **Landscape Plants II**
Spring. 4(1-6)
Continuation of 211. Additional emphasis on the flowering characteristics of both deciduous and broad-leaved evergreen shrubs, trees and vines.
320. **Commercial Fruit Production**
Fall. 4(3-2) Juniors.
Commercial production of principal tree fruit crops of Michigan with emphasis on planting, soil management, fertilization, pruning, thinning, and grafting.
323. **Indoor Plants and Flowers**
Fall, Winter, Spring. 3(1-4) Not open to horticulture Majors.
Identification, culture, propagation and use of plants for homes, schools, offices and public buildings; principles of flower arrangement, construction of dish gardens and hanging baskets, and the forcing of bulbs.
325. **Ornamental Plant Management**
Spring. 4(3-2) 211 or 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 Topics in Horticulture**
Fall, Winter, Spring, Summer. 1 to 9 credits. May re-enroll for a maximum of 18 credits. Approval of department.
Special studies in fields not covered in other horticulture courses; primarily independent study.

402. Principles of Weed Control

Fall. 3(2-2) Juniors. Interdepartmental and administered jointly with Crop Science.

Comprehensive study of principles underlying weed control practices, and factors involved in both mechanical and chemical control.

408. Principles of Plant Breeding

Spring. 4(3-2) CSC 250. Interdepartmental and administered jointly with Crop Science.

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. 4(3-2) Juniors.

Physiology of flowering and fruit development in woody plants.

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. 4(2-4) BOT 301 or 414.

Control of greenhouse environment and its effect on growth and production of horticultural crops.

419. Small Fruits

Winter. 3(3-0) Juniors.

Production, culture, utilization and physiology of strawberries, grapes, blueberries and raspberries.

421. Principles of Plant Propagation

Winter. 4(3-2) Juniors.

Principles of plant propagation by seed, cutting, layerage, and graftage; scion and stock relationship; stocks for fruit and ornamental plants; practices employed by nurseries in propagation of plants.

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.

432. Vegetable Crop Physiology

Spring. 4(3-2) May re-enroll for a maximum of 8 credits. Juniors.

Physiological principles involved in and related to the production of high quality vegetables.

433. Greenhouse Cut Flower Production

Winter of even-numbered years. 4(3-2) May re-enroll for a maximum of 8 credits.

Principles of flower crop physiology; includes control of environmental conditions, and emphasizes the management of cut flower production.

434. Greenhouse Container-Grown Plant Production

Winter of odd-numbered years. 4(3-2) 417 or approval of department.

Principles of flower crop physiology; includes control of environmental conditions and emphasizes the management of container-grown plant production.

440. Nursery Management

Fall of even-numbered years. 3(2-2)

Management practices employed by wholesale, retail and landscape nurseries. Field trips to nurseries required.

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 Horticulture Crops I

Fall. 4(3-2) BOT 415.

Physiology of plant organs and tissue development, sexual reproduction, rooting, bulb growth and development and grafting of horticultural crops.

808. Physiology of Horticultural Crops II

Winter. 4(3-2) BOT 415.

Physiology of juvenility, flowering and fruiting of herbaceous and woody plants, senescence and bud and seed dormancy as related to horticultural crops.

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. Advanced Horticultural Studies

Fall, Winter, Spring, Summer. Variable credit. Approval of department.

899. 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, 828, or approval of department. Interdepartmental with and administered by Crop Science.

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. 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)

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.

235. Service Industries Equipment and Utilities

(335.) Fall, Winter. Summer of even-numbered years. 4(4-0) MTH 108.

Engineering in food and lodging industry, emphasizing utilities, machinery characteristics and environment.

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.

261. Dimensions of Tourism

Fall, Winter. Summer of odd-numbered years. 4(4-0) EC 201.

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) 245; HNF 100.

Interrelationships of the environmental, microbiological and physiological principles relevant to the food service industry.

303. Service Industry Accounting

(203A., 203.) Fall, Winter. 4(4-0) AFA 202, 391.

Principles of accounting applied to service industries. Financial statement analysis and cash flow concepts. Managerial accounting emphasized.

305. Lodging Management I

Fall, Winter. Summer of even-numbered years. 4(4-0) MGT 302.

Ethics and policies. Organization and manpower planning and development. Employee compensation and benefits as they apply to hospitality organization.

306. Lodging Management II

Winter, Spring. Summer of even-numbered years. 4(4-0) 305.

Continuation of 305. Supervision and activation of employees with emphasis on human relations, collective bargaining—negotiations and operating under the contract.

337. Management Systems for the Hospitality Industry

Winter, Spring. Summer of even-numbered years. 4(4-0) MGT 302 and Juniors. Evaluation and appraisal of management systems currently in use and the development of new management systems for the hospitality industry.

350. Work Analysis and Design

(350A.) Fall, Winter. Summer of odd-numbered years. 4(4-0).

Work methods and layout. Includes flow analysis, time and motion study, work simplification, data processing and setting of standards.