803. *Historiography*  
Fall. 4(4-0)  
Readings, discussions and written exercises designed to introduce the beginning graduate student to the problems, methods, and techniques of historical research. Examination of the major approaches to history. Discussion of and practice in the main techniques of historical method, including bibliography, documentation, and literary style. A section of the course will be arranged for the study of European history materials and a section for the study of American history materials.

819. *Readings in Latin-American History*  
Fall, Winter, Spring. 4 credits. May reenroll for a maximum of 40 credits. Approval of department.

821. *Readings in Seventeenth and Eighteenth Century American History*  
Fall, Winter, Spring. 4 credits. May reenroll for a maximum of 20 credits. Approval of department.

822. *Readings in Nineteenth Century American History*  
Fall, Winter, Spring. 4 credits. May reenroll for a maximum of 20 credits.

823. *Readings in Twentieth Century American History*  
Fall, Winter, Spring. 4 credits. May reenroll for a maximum of 20 credits.

824. *Urban Policy in Historical Perspective*  
Fall. 3(2-0)  
Urban policy in United States and other industrial countries since 1930, with attention to intended and unintended consequences for cities. Approved through Summer 1989.

831. *Archives Administration*  
Winter. 4(4-0) Graduate students.  
Review of archives administration, past and present, study of archivist's functions in the archives of business, government, educational, and private agencies.

832. *Archives Operations*  
Spring. 4(2-4) HST 531.  
Practical work in processing and analyzing collections in University Archives and Historical Collections; reporting and critiques on archives operations.

833. *Archives Independent Study*  
Fall, Winter, Spring. 4 credits. HST 632.  
An advanced archives course in which the student works under supervision on one or more projects, e.g., processing, finding aids, and oral history.

839. *African Research*  
(IDC 528) Fall, Winter, Spring. 2 to 4 credits. May reenroll for a maximum of 6 credits. Graduate standing or approval of instructor. Interdepartmental with African Languages and the departments of Anthropology, Educational Administration, Geography, Political Science, and Sociology. Administered by the Department of Anthropology.  
African-related archival and field research topics and methodologies viewed from perspective of relevant social science and humanistic disciplines associated with the African Studies Center.

848. *Readings in English History*  
Fall, Winter, Spring. 4 credits. May reenroll for a maximum of 40 credits.

852. *Readings in Ancient History*  
Fall, Winter, Spring. 4 credits. May reenroll for a maximum of 40 credits.

853. *Readings in Medieval History*  
Fall, Winter, Spring. 4 credits. May reenroll for a maximum of 40 credits.

855. *The Industrial Revolution in Europe*  
Winter of even-numbered years. 3(3-0) EC 318, EC 324. Interdepartmental with and administered by the Department of Economics. The preconditions that led to the momentous changes in agriculture and industry in Europe from 1700-1914.

863. *Readings in Early Modern European History*  
Fall, Winter, Spring. 4 credits. May reenroll for a maximum of 20 credits.

864. *Readings in Recent European History*  
Fall, Winter, Spring. 4 credits. May reenroll for a maximum of 20 credits.

867. *Readings in Russian History*  
Fall, Winter, Spring. 4 credits. May reenroll for a maximum of 20 credits.

873. *Readings in the History of International Relations*  
Fall, Winter, Spring. 4 credits. May reenroll for a maximum of 20 credits.

894. *Readings in African History*  
Fall, Winter, Spring. 4 credits. May reenroll for a maximum of 40 credits.

897. *Readings in Asian History*  
Fall, Winter, Spring. 4 credits. May reenroll for a maximum of 40 credits.

898. *Directed Reading*  
Fall, Winter, Summer. 4 credits. May reenroll for a maximum of 10 credits. Graduate students; approval of department. Supervised individual reading on special topics and fields.

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

901A. *Doctoral Seminar*  
Fall. 3(3-0) Admission to doctoral program in history. HST 901A, HST 901B and HST 901C constitute a three-term seminar required of students entering doctoral program. Under guidance of dissertation director and course instructors student will prepare major research paper and submit for criticism by all participants. Grades are given for the three terms at the end of HST 901C.

901B. *Doctoral Seminar*  
Winter. 3(3-0) HST 901A. Continuation of HST 901A.

901C. *Doctoral Seminar*  
Spring. 3(3-0) HST 901B. Continuation of HST 901B.

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

**HISTORY OF ART**

See Art.

**HORTICULTURE**

**HRT**

**College of Agriculture and Natural Resources**

101. *Principles of Horticulture*  
Fall, Spring. 4(3-2) Not open to students with credit in HRT 501.  
Principles of horticultural science and horticultural crop production, as related to fruits, vegetables, flowers and landscape plants.

208. *Greenhouse Cut Flower Production*  
Fall. 4(3-2)  
Commercial cut flower production including scheduling, cultural conditions, equipment, and management decisions. Laboratory provides live crops for study and discussion.

209. *Foliage Plans*  
Fall. 4(3-2)  
Identification, culture, propagation, and utilization of common foliage plants with emphasis on species and cultivars used for interior landscapes.

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 aesthetic and functional uses of trees and shrubs in the landscape.

212. *Ornamental Flowering Shrubs and Broad-leaved Evergreens*  
Spring. 4(3-2) HRT 211 or approval of instructor  
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*  
Winter. 4(3-2) HRT 101.  
Principles of plant propagation by seed, cuttage, layerage, and graftage employed by nurseries; use of growth regulators and environmental treatments in plant propagation.

275. *Landscape Horticulture Operations*  
Winter. 3(2-2)  
Management aspects of landscape construction and maintenance operations. Emphasis on marketing of services, organization of labor, reporting procedures, horticultural specifications, bidding and project management.
319. Small Fruit Production
3(3-0) HRT 101, BOT 205, BOT 301.
Commercial production, culture, utilization and physiology of strawberries, grapes, blueberries and raspberries.

320. Tree Fruit Production
Fall, 3(3-2) HRT 101, Juniors.
Commercial production of principle tree fruit crops of Michigan with emphasis on planting, soil management, fertilization, pruning, thinning, and grafting.

325. Ornamental Plant Management
Spring, 4(3-2) HRT 101, HRT 211, HRT 212.
Transplanting and maintenance of ornamental plants subject to stresses of urban environment. Development of annual maintenance specifications, identification and evaluation of herbaceous annuals, biennials and perennials for landscape.

326. Herbaceous Ornamental Plants
Summer, 4(3-3) HRT 101 or BOT 205 or approval of department.
Identification, evaluation, and utilization of annual, biennial, and herbaceous perennial plants for landscape. Includes bulbs, herbs, grasses, ferns, and cultivated plants.

327. Landscape Design: A Horticultural Approach
Spring, 4(3-2) HRT 212 or concurrently.
Landscape design techniques. Plant selection and use. Plant and site relationships. Client and designer involvement. Laboratory emphasizes elementary drafting techniques, landscape plan preparation and interpretation.

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
Spring, 4(3-2) CEM 143, BOT 301.
Principles underlying weed control practices for horticultural crops. Weed biology and factors involved in biological, cultural, mechanical and chemical control. Collection of 40 weed species required.

408. Principles of Plant Breeding
Winter, 4(3-2) CSS 230, Interdepartmental 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.

410. Fruit Tree Physiology I
Fall, 3(3-0) HRT 101, Juniors.
Winter of odd-numbered years. 4(4-0) Juniors, BOT 301, HRT 101.
Physiological effects of nutrition, moisture, light, temperature and culture as related to tree fruit crops.

412. Fruit Tree Physiology II
Winter of odd-numbered years. 3(3-0) Juniors, HRT 101, BOT 301.
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 of even-numbered years. 4(3-2) 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) HRT 101, BOT 301 or HRT 418 or approval of department.
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.

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.

435. Commercial Bedding Plant Production
Spring of odd-numbered years. 4(3-2) HRT 417, HRT 418, HRT 434.
Production of commercial bedding plants. Includes germination, soils, transplanting, environmental factors, production practices, major species, structures, equipment, systems, problems, economics and marketing. One field trip required.

440. Nursery Management
Fall, 3(3-2) Juniors.
Management practices applied to wholesale nursery production. Selection of plants for one all-day field trip to visit nurseries is required.

452. Warm Season Vegetables
Spring, 4(3-2) HRT 101, BOT 301, CSS 210.
Warm season crops with emphasis on botany, taxonomy, morphology, growth processes, production, harvesting, handling, quality and composition. Field trip required.

456. Cool Season Vegetables
Fall, 4(3-2) HRT 101, BOT 301, CSS 210.
Cool season crops with emphasis on botany, taxonomy, morphology, growth processes, production, harvesting, handling, quality and composition. Field trip required.

460. Tropical Vegetables
Spring of odd-numbered years. 3(3-2) HRT 101 or approval of instructor.
Culture of tropical vegetables in commercial and subsistencecropping systems. Role in human nutrition, income generation and international development.

462. Tropical Fruits and Spices
Spring of even-numbered years. 3(3-0) HRT 101 or approval of instructor.
Culture of tropical fruits and spices in commercial and subsistence cropping systems. Role in human nutrition, income generation and international development.

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

808. Physiology of Horticultural Crops
Winter of even-numbered years. 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.

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

814. Plant Breeding and Genetics Seminar
Winter. 1(1-0) May reenroll for a maximum of 2 credits. Approval of department. Interdepartmental with the departments of Crop and Soil Sciences, and Forestry. Administered by the Department of Crop and Soil Sciences.

815. Selected Topics in Plant Breeding and Genetics
Fall, Winter, Spring, Summer. 2 to 5 credits. May reenroll for a maximum of 12 credits if different topics are taken. Approval of department. Interdepartmental with the departments of Crop and Soil Sciences, and Forestry. Administered by the Department of Crop and Soil Sciences.

816. Special Problems in Plant Breeding and Genetics
Fall, Winter, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 8 credits. Approval of department. Interdepartmental with the departments of Crop and Soil Sciences, and Forestry. Students may conduct research in a laboratory, greenhouse or field-plot on a selected subject or study selected published literature under the supervision of a faculty member.

821. Genetic Concepts in Plant Breeding
Fall, 3(3-0) CSS 250 or ZOL 441. Interdepartmental with the departments of Crop and Soil Sciences, and Forestry. Administered by the Department of Crop and Soil Sciences.
Genetic structure of plant populations, gene action, inbreeding, outbreeding, heterosis, linkage and recombination, genetic architecture of traits, genetic distance.
822. **Plant Breeding Systems**  
Winter. 3(3-0) CSS 821, STT 422. Interdepartmental with the departments of Crop and Soil Sciences, and Forestry. Breeding systems for improvement of self and cross pollinated and of vegetatively propagated crops. The genetic basis for parent selection.

823. **Plant Breeding Methods**  
Spring. 3(3-0) HRT 622, STT 423. Interdepartmental with the departments of Crop and Soil Sciences, and Forestry. Administered by the Department of Crop and Soil Sciences. Methods, strategies and practices in organization and operation of plant breeding programs. Emphasis on practical application of classical, modern and futuristic approaches to plant breeding.

825. **Post Harvest Physiology**  
Winter of odd-numbered years. 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. 1 to 12 credits. May enroll for a maximum of 12 credits. Approval of department.

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

836. **Evolution of Crop Plants**  
Fall of even-numbered years. 3(3-0) CSS 821 or approval of department. Interdepartmental with the departments of Crop and Soil Sciences, and Forestry. Cultural and biological aspects of evolution under domestication; origin and diversity of cultivated plants.

838. **Tissue Culture for Plant Breeding**  
Fall of even-numbered years. 3(2-2) BOT 414, CSS 821. Interdepartmental with the departments of Crop and Soil Sciences, and Forestry. The application of plant cell, protoplast and tissue culture methodologies and principles to plant improvement.

844. **Plant Organelle Genetics**  
Winter of odd-numbered years. 3(3-0) Approval of department. Interdepartmental with Genetics and the departments of Botany and Plant Pathology, Crop and Soil Sciences, and Forestry. Organization, structure, function, heredity, molecular biology and manipulation of chloroplasts and mitochondria. Biological interactions between the nucleus and organelles.

850. **Plant Interactions in Agroecosystems**  
Winter of odd-numbered years. 3(3-0) BOT 420, BCH 491, CSS 402. Interactions between plants affecting mortality and plastic responses in horticultural, agroecological and forest systems, including interference and symbiosis.

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

904. **Theoretical Population Genetics**  
Winter of even-numbered years. 4(4-0) MTH 113, STT 422. CSS 821. Interdepartmental with the departments of Crop and Soil Sciences, and Forestry. Administered by the Department of Forestry. Discussion of mathematical theories in population genetics and experimental works on natural and laboratory populations.

914. **Quantitative Genetics in Plant Breeding**  
Spring of even-numbered years. 4(4-0) STT 423, CSS 823 or approval of department. Interdepartmental with the departments of Crop and Soil Sciences, and Forestry. Administered by the Department of Crop and Soil Sciences. Calculation and implication of genetic parameters. Linkage, Coancestry and inbreeding. Covariance between relatives. Heritability and selection. Genotype by environment interaction. Emphasis on relationship of quantitative genetics to plant breeding.

944. **Physiological Genetics**  
Winter. 3(3-0) BOT 413, CSS 821. Interdepartmental with the departments of Crop and Soil Sciences, and Forestry. Administered by the Department of Forestry. Control of variation in higher plants including adaptive physiology, quantitative genetics, growth correlation, biochemical genetics, hybrid physiology, and genecology.

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

---

**HOTEL, RESTAURANT AND INSTITUTIONAL MANAGEMENT**  
**HRI**

**College of Business and Graduate School of Business Administration**

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**  
Fall, Spring. 4(4-0) ACC 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 major. 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 industry. Tourism, 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, Summer of even-numbered years. 4(4-0) HRI 237. 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**  
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) MTH 310, EC 290. 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) F I 391, HRI 255. 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.