498H. Honors Thesis

Fall, Winter, Spring. 4 credits. Reen-rollment for a total of 12 credits required. Approval of department.

Those preparing an honors thesis will enroll in this course for three consecutive terms in their senior year. They will work on a research project under the direction of a member of the history faculty and will produce an honors thesis.

Graduate courses are of two types: reading courses and seminars. The former entail wide reading on selected topics and written and oral reports. The latter emphasize original research and the writing of research papers. The content of both reading courses and seminars in a given field may change from term to term, thus making possible a rich and varied offering in history for the graduate student. Students may enroll in a course for more than one term or more than one section of a course during the same term, provided that duplication of content does not result. Sheets giving detailed information concerning Sheets giving detailed into the all graduate courses to be offered during a particular term are available in the History office during the preceding term. Students desiring to enroll in these course must have the permission of the department.

Historiography 803. Fall. 3 credits.

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.

Readings in Non-Western 806. Civilizations

Fall, Winter, Spring. 5 credits. Approval of department and 6 credits in the field of the reading course taken in the Master's pro-

Intensive reading and discussion on the non-Western world designed to view the field in historical perspective, to tackle technical teaching problems and to give a review of pertinent teaching materials, major interpretations and current problems.

Readings in Latin-American 819. History

Fall, Winter, Spring. 4 credits. Approval of department.

Readings in Seventeenth and 821. Eighteenth Century American

Fall, Winter, Spring. 4 credits. Approval of department.

- Readings in Nineteenth Century 822. American History Fall, Winter, Spring. 4 credits.
- Readings in Twentieth Century 823. American History Fall, Winter, Spring. 4 credits.

Archives Administration 831. 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(1-6) HST 831.

Practical work in processing and analyzing collections in University Archives and Historical Collections; reporting and critiques on archives operations.

Archives Independent Study 833.

Fall, Winter, Spring, Summer. 4 credits. HST 832.

An advanced archives course in which the student works under supervision on one or more projects, e.g., processing, finding aids, and oral history.

Subsaharan Africa Seminar

For course description, see Interdisciplinary Courses.

- Readings in English History 848. Fall, Winter, Spring. 4 credits.
- Readings in Ancient History 852. Fall, Winter, Spring. 4 credits.
- Readings in Medieval History 853. Eall, Winter, Spring. 4 credits.

The Industrial Revolution in 855. 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.

Readings in Renaissance and 857. Reformation

Fall, Winter, Spring. 4 credits.

Readings in Early Modern 863. European History

Fall, Winter, Spring. 4 credits.

Readings in Recent European 864. History

Fall, Winter, Spring. 4 credits.

- 867. Readings in Russian History Fall, Winter, Spring. 4 credits.
- Readings in the History of 873. International Relations Fall, Winter, Spring. 4 credits.
- Readings in African History 894. Fall, Winter, Spring. 4 credits.
- Readings in Asian History 897. Fall, Winter, Spring. 4 credits.

Directed Reading 898.

Fall, Winter, Spring, Summer. 4 credits. May reenroll for a maximum of 16 credits. Graduate students; approval of department. Supervised individual reading on special topics and fields.

Master's Thesis Research 899.

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.

Doctoral Dissertation Research 999.

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

HISTORY OF ART

See Art.

HORTICULTURE

HRT

College of Agriculture and Natural Resources

Principles of Horticulture 101.

Fall, Spring. 4(3-2) Not open to students with credit in HRT 201.

Principles of horticultural science and horticultural crop production, as related to fruits, vegetables, flowers and landscape plants.

Ornamental Trees and 211.Narrow-leaved Evergreens

Fall. 4(2-4)

Identification, adaptation and evaluation of trees, deciduous shrubs, narrow-leaved ever-greens and woody vines. Emphasis is on the asthetic and functional uses of trees and shrubs in the landscape.

Ornamental Flowering Shrubs 212. and Broad-leaved Evergreens

Spring. 4(2-4) 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.

Commercial Plant Propagation 221. Winter. 4(3-2) HRT 101.

Principles of plant propagation by seed, cuttage, layerage, and graftage employed by mirseries; use of growth regulators and environmental treatments in plant propagation.

Tree Fruit Production 320.

Fall. 4(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.

Courses

325. Ornamental Plant Management Spring. 4(3-2) HRT 101, HRT 211, HRT

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.

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.

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.

33I. 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.

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.

Principles of Weed Control for Horticultural Crops 402.

Fall. 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.

410. Fruit Tree Physiology I

Winter of even-numbered years, 4(4-0) luniors, BOT 301, HRT 101.

Physiological effects of nutrition, moisture, light, temperature and culture as related to tree

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

Spring. 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 BOT

414.

Control of greenhouse environment and its effeet on growth and production of horticultural

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 of odd-numbered years, 3(3-0) HRT 101, BOT 205, BOT 301.

Commercial production culture, utilization and physiology of strawberries, grapes, blueberries and raspherries.

433. Greenhouse Cut Flower and Foliage Plant Production

Spring of even-numbered years. 4(3-2) 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.

435. Commercial Bedding Plant Production

Spring of odd-numbered years. 4(3-2) HRT 417, HRT 418, HRT 434.

Production and marketing of 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(2-2) Juniors.

Management practices applied to wholesale nursery production and marketing. One all-day field trip to visit nurseries is required.

452. Warm Season Vegetables

Spring. 3(3-0) HRT 101, BOT 301, CSS

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 concur-

rently.

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) HRT 101, BOT 301, CSS

Cool season vegetable crops with emphasis on botany, taxonomy, morphology, growth processes, production, harvesting, handling, quality and composition.

Cool Season Vegetables *457.* 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.

Research Procedures in Plant 801. Science

Winter. 4(3-2) Approval of depart-

Orderly approach to problems of biological research in relation to basic principles of research.

808. Physiology of Horticultural

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)

825. Post Harvest Physiology

Spring. 4(3-2)

Biochemical and biophysical changes associated with the maturation, ripening and senescence of harvested horticultural plants.

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 de-

840. Tissue Culture for Plant Breeding

Winter of even-numbered years. 3(2-2) BOT 414, HRT 408.

The application of plant cell, protoplast and tissue culture methodologies and principles to crop improvement.

899. Master's Thesis Research

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

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.