

412. Fruit and Landscape Crop Physiology II
Winter of odd-numbered years. 4(3-2)
Juniors.
The flowering and fruiting of 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
Fall and Spring of odd-numbered years. 4(3-2) May re-enroll for a maximum of 8 credits. Juniors.
Modern technology used in production of important fresh market and processing vegetables. Field trips to commercial vegetable areas required.

433. Greenhouse Crop Production Management
Winter. 4(3-2) May re-enroll for a maximum of 8 credits.
Principles of floriculture crop physiology; includes control of environmental conditions, and management. Emphasis on cut flowers in even-numbered years; on container-grown plants in odd-numbered years.

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.

808. Growth and Development
Winter. 4(4-0) BOT 301 or 414; 415.
Morphological and physiological changes in horticultural plants as induced by growth regulators.

809. Water and Nutritional Requirements
Fall. 4(3-2)
Factors affecting nutrition and methods and techniques for evaluating nutrient requirements for 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 827, 919, or approval of department. Interdepartmental with and administered by the Crop Science Department.
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.

953. Cytogenetics in Plant Breeding Laboratory
Winter of odd-numbered years. 3(0-6) CSC 951 or concurrently. Interdepartmental with the Crop Science Department.
Laboratory course to accompany CSC 951.

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

245. Food Production Technology
Fall, Spring. 5(3-3) FN 202; MPH
Interrelationships of the physical, biological and chemical principles relating to foods and supplies for the food service industry.

255. Survey of Food Services
(355.) Winter. 4(4-2)
Organization and basic operation of various types of quantity food services. Fundamentals of meal planning, food production and service standards and techniques. Practice in evaluating food service installations. Field trips required.

261. Dimensions of Tourism
Fall, Spring. 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.

305. Lodging Management
Fall, Winter. Summer of even-numbered years. 4(3-2) 261; MGT 302.
Functions of organization, supervision and activation in organizations providing overnight accommodations. Considerations of ethics, policies, trade associations, collective bargaining, employee training and emphasis on human relationships.

323. Health Facilities Externship
Fall, Winter, Spring, Summer. Zero credit [2 credits]†. 203, 320; approval of health facilities management coordinator.
At least 800 hours of actual experience in junior-senior year, in a health care facility or related organization. Application of theoretical concepts to practical situations.

335. Service Industries Equipment and Utilities
Fall, Winter. Summer of even-numbered years. 5(4-2) MTH 111.
Engineering in food and lodging industry, emphasizing utilities, machinery characteristics and environment.

336. Service Industry Maintenance
Winter, Spring. Summer of even-numbered years. 4(4-0) 335.
Engineering in food and lodging industry, emphasizing maintenance, rehabilitation, equipment needs and cost considerations.

350. Work Methods
(350A.) Fall, Winter. Summer of odd-numbered years. 4(3-2) Juniors, STT 121.
Work methods and layout. Includes flow analysis, time and motion study, work simplification, data processing and setting of standards.

353. Service Industry Externship
Fall, Winter, Spring, Summer. Zero credit. 305; approval of academic adviser.
Eight hundred hours of actual experience in a hospitality or tourism related organization. Application of theoretical concepts to practical supervisory of managerial situations.

375. Service Industry Merchandising
(375A., 375B.) Fall, Spring, Summer. 5(4-2) MTA 316.
Principles of marketing applied to service industries advertising, promotion, public relations and personal selling to achieve profitable public recognition and good will.

HOTEL, RESTAURANT AND INSTITUTIONAL MANAGEMENT HRI

College of Business

102. Introduction to the Service Industries
Fall, Spring. 3(2-2)
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
(203A, 388.) Fall, Winter. Summer of odd-numbered years. 4(3-2) AFA 202.
Principles of accounting applied to service industries. Financial statement analysis and cash flow concepts. Managerial accounting emphasized.

†See page A-2 item [3]

400H. Honors Work
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

405. Food and Beverage Management
(447.) Winter, Spring, Summer of odd-numbered years. 4(3-2) 203A, 305; 435 or concurrently.
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 operation.

435. Food Production Systems
(345.) Fall, Spring, Summer of even-numbered years. 6(4-6) F N 200; FSC 242.
Recognition and achievement of quality in development of systematic relationships between items, time, labor, equipment and costs in quantity food production. Quality procurement policies for food, beverages and related items. Field trip required.

455. Food and Beverage Evaluation
(445.) Fall. 4(3-2) 435; approval of school.
History of foods and beverages and related physiological and psychological theories and their application to quantity food production and service.

461. The Travel Trade
Winter. 4(4-0) 261, 375B; GEO 204; Seniors: MTA 447.
Evolution of tourism as an industry. Travel motivation, modes, accommodations, development, organizations; policies (private and governmental) and tourism administration. Field trip required.

465. Recreation Industry Management
Fall. 4(4-0) 305.
Applies management principles in the recreation center, club, tourist entertainment and sales, and similar related businesses providing revenue-generating recreation, accommodations, and services.

472. Design and Layout
Conceptualization, design, layout and specification of service industry facilities.
A. DESIGN AND LAYOUT -- INTERIOR
Winter, Summer of odd-numbered years. 4(2-4) 350, 435.
B. DESIGN AND LAYOUT -- EXTERIOR
Spring, Summer of even-numbered years. 4(2-4) 350, 435.

473. Operations Research in the Service Industries
Fall, Spring. 4(3-0) 305 or 421; MTA 316; CPS 110; Seniors.
Application of marketing and operational research techniques to service industry management problems, emphasizing quantitative and analytical decision models designed for specific operations in this field.

490. Operational Analysis in the Housing and Feeding Industry
Spring. 5(4-0) 305; Seniors.
Advanced management concepts, leading to an understanding of decision theory as applied to directed investigation into specific hospitality operations.

499. Independent Study
Fall, Winter, Spring, Summer. 1(1-0) to 15(1-0) May re-enroll for a maximum of 15 credits.
Research in any phase of food, lodging, hospitality, tourism or health facilities operations. Research techniques; technical writing; and oral presentation of findings to faculty, interested students, and industry representatives.

811. Policy Formulation and Organization
Fall. 5(5-0) 875, 888; MGT 806.
Development of goals, objectives and consistent business policies for the creation of dynamic and effective organizations for all phases of service industries.

861. Economic Implications of Tourism
Fall. 3(3-0) EC 860.
Economic, historical, philosophical, psychological, governmental and educational aspects and satisfactions of travel. The promotion of tourism; the business of travel and its relationships to the hospitality industry.

875. Merchandising for the Service Industries
Fall. 4(4-0) MTA 805.
Application of principles of marketing, sales, service, advertising, promotion and public relations to problems peculiar to these industries. Considerable use of actual cases.

888. Financial Management for the Service Industries
Winter, Summer of odd-numbered years. 4(4-0) AFA 840.
Covers leasing, franchising, tax considerations, planning to meet financial needs from internal sources or from capital markets, management of current and capital assets, including inventories and operational equipment.

890. Special Problems
Fall, Winter, Spring, Summer. 1 to 15 credits. Approval of school.
Opportunity for the outstanding student to engage in depth analysis of a service industry area of his choice that will result in a positive contribution to the field.

896. Problems of the Service Industries
Spring, Summer. 3 credits. 888; MTA 802.
Formulation of plans based on analysis of situations and trends applying general business principles. Discussion of actual cases with leaders in service industries.

898. Facilities Programming
Spring. 4 credits. MTA 802 or concurrently.
Application of principles and concepts drawn from many related disciplines to planning and operation of housing and food production systems, utilizing optimum physical and human resources.

HUMAN DEVELOPMENT* H D
College of Human Medicine

590. Special Problems in Human Development
Fall, Winter, Spring, Summer. 1 to 6 credits. May re-enroll for a maximum of 12 credits. Human medicine students.
Each student will work under direction of a staff member on an experimental, theoretical or applied problem.

*Effective January 1, 1968.

HUMAN MEDICINE H M
(COLLEGE OF)

499. Seminar in Medicine and Society
(MED 499.) Fall, Winter, Spring. 2(3-0) Must re-enroll for a maximum of 6 credits. Human Medicine students.
Medicine in its wider social and cultural context. Health viewed as an expression of the person's total functioning - sociocultural, psychological, and biological - with illness regarded as the result of a dysfunction in any one of these areas.

501. Human Biology and Behavior
(MED 501.) Fall. Variable credit. May re-enroll for a maximum of 12 credits. Year V Human Medicine students.
An integrative approach to the human organism, utilizing development as a central theme, and focusing upon the prenatal period.

502. Human Biology and Behavior
(MED 502.) Winter. 12(9-11) 501. Variable credit. May enroll for a maximum of 12 credits.
Continuation of 501 focusing upon birth and the peri-natal period.

503. Human Biology and Behavior
(MED 503.) Spring. 9(7-7) 502. Variable credit. May enroll for a maximum of 9 credits.
Continuation of 502 focusing upon the period of childhood.

590. Special Problems in Human Medicine
Fall, Winter, Spring, Summer. 1 to 6 credits. May re-enroll for a maximum of 12 credits. Human Medicine students.
Each student will work under direction of a faculty member of the college on an experimental, theoretical or applied problem. A student should employ this college level course, as distinguished from the departmental level special problems course, when his topic of interest seems to require a broad multidisciplinary approach.

601. Human Biology and Behavior
Fall. Variable credit. May re-enroll for a maximum of 15 credits. Year V - College of Human Medicine Curriculum.
A multidisciplinary study of the human organism unified by the theme of growth and development. Covers the basic science and clinical aspects of human growth and development from adolescence to death.

602. Human Biology and Behavior
Winter. 15(8-16) 601. Variable credit. May enroll for a maximum of 15 credits.
Continuation of 601.

603. Human Biology and Behavior
Spring. 15(8-16) 602. Variable credit. May enroll for a maximum of 15 credits.
Continuation of 602.

HUMANITIES HUM
University College

Alternative approaches or tracks are offered on an optional basis all of which meet the course objectives of 241, 242, 243. These are described briefly on the following page and are designated by letters which are used as part of the course number for registration. A student will normally proceed through the three courses in the same track. No student may receive credit for more than one track within a course (241, 242, 243).