456. Cool Season Vegetables  
Fall, Winter, Spring, Summer. 2 to 5 credits. Approval of department. Research in relation to basic principles of research. May reenroll for a maximum of 15 credits. Interdepartmental with the departments of Crop and Soils Sciences, and Forestry. Administered by the Department of Crop and Soils Sciences. 

460. Tropical Vegetables  
Spring of odd-numbered years. 3(3-0) 
HRT 101 or approval of instructor. 
Culture of tropical vegetables in commercial and subsistence cropping 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. 
Orderly approach to problems of biological research in relation to basic principles of research. 

808. Physiology of Horticultural Crops  
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. 

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 Soils Sciences, and Forestry. Administered by the Department of Crop and Soils 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 Soils Sciences, and Forestry. Administered by the Department of Crop and Soils 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 Soils 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 Soils Sciences, and Forestry. Administered by the Department of Crop and Soils 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 521, STT 422. Interdepartmental with the departments of Crop and Soils 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 823, STT 433. Interdepartmental with the departments of Crop and Soils Sciences, and Forestry. 
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 reenroll for a maximum of 12 credits. Approval of department. 

831. Selected Topics (MTC)  
Fall, Winter, Spring, Summer. 1 to 4 credits. May reenroll for a maximum of 12 credits if different topics are taken. Approval of department. 
Selected topics in horticultural science of current interest and importance. 

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 Soils Sciences, and Forestry. 
Cultural and biological aspects of evolution under domestication; origin and diversity of cultivated plants. 

838. Tissue Culture for Plant Breeding  
840. Winter of odd-numbered years. 3(2-0) BOT 414. CSS 821. Interdepartmental with the departments of Crop and Soils Sciences, and Forestry. 
The application of plant cell, protoplast and tissue culture methodologies and principles to crop 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 Soils 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 459, BUC 401. CSS 402. 
Interactions between plants affecting mortality and plastic responses in landscape, agro­ecosmics, and forest systems, including interference and symbiosis. 

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

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

941. Quantitative Genetics in Plant Breeding  
Spring of even-numbered years. 4(4-0) STT 423, CSS 833 or approval of department. Interdepartmental with the departments of Crop and Soils Sciences, and Forestry. Administered by the Department of Crop and Soils 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 of odd-numbered years. 3(3-0) BOT 413, CSS 821. Interdepartmental with the departments of Crop and Soils 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 business. Includes front office practice. Local field trip required. 

203. Service Industry Accounting  
Fall, Spring. 4(4-0) ACC 202; not open to Seniors. 
Descriptions — Hotel, Restaurant and Institutional Management of Courses

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, Summer. Odd-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 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 115, EC 262.
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 237, 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. 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 203.
Basic financial concepts applied to the hospitality 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 263.
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. 4(4-0) EC 201, EC 262.
Recognition and achievement of quality in development of systematic relationships between menu items, time, labor, equipment and cost 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 245.
Tourism organizations, functions, and policy determination, tour wholesaling and retail travel agency management. Field trip required.

463. Tourism Distribution Management Fall. 4(4-0) HRI 245.
Component channels of the tourism distribution system. Functional interrelationships of the channels with emphasis on increasing distribution effectiveness. Field trips required.

466. Tourism Planning and Development Fall, Spring. 4(4-0) HRI 245.
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 245.
Conceptualization, design, layout and specification of service industry facilities.

473. Operations Research in the Service Industries Fall, Spring. Summer of odd-numbered years. 4(4-0) HRI 237, MTA 295.
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.

475. Promotion of Hospitality Services Fall, Winter, Spring. Summer of odd-numbered years. 4(4-0) HRI 375.
Advertising, personal selling, sales promotion, merchandising, public relations, and publicity to compete effectively for individual and group sales in the hospitality industry.

490. Operational Analysis in the Hospitality Industry Fall, Spring. 4(4-0) HRI 405, 500 hours work experience requirement. HRI majors only.
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 to 4 credits. May renew for a maximum of 8 credits. Majors and approval of school. Research in any phase of food, lodging, hospitality, tourism, or health facilities operations.

805. Advanced Foodservice Management Winter. 4(4-0) HRI 345.
Administrative and technical management of foodservices. Emphasis on operation analysis and problem solving.

807. Workforce Management in the Hospitality Industry Fall. 4(4-0) HRI 337.
Developing and maintaining a productive workforce for hospitality firms. Emphasis on supervisory skills and labor relations.

835. Energy Management in Hospitality Facilities Fall. 4(4-0) HRI 405.
Achieving energy efficiency through system analysis and design. Includes energy audits and design problems.

837. Advanced Lodging Management Winter. 4(4-0) HRI 337.
Administrative and technical management of hotels. Emphasis on operations and analysis and problem solving.

875. Innovation in Hospitality Marketing Spring. 4(4-0) MTA 385 or concurrently.
Application of marketing concepts to the hospitality sector, with special emphasis on the role of promotion in the hospitality marketing process.

888. Financial Management for the Service Industries Spring. 4(4-0) ACC 480.
Preparation and interpretation of financial statements, budget preparation and analysis of budgetary variances. Financial aspects of hospitality business expansion, franchising contracts, feasibility studies, and valuation considerations.

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