Descriptions — Horticulture

452. Warm Season Vegetables
Spring, 3(0-0) HRT 101, BOT 301, CSS 210.
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 concurrently.
Identification of seeds and plants and factors affecting germination, sex expression, permanent flowering, bulb and tuber formation.

456. Cool Season Vegetables
Fall, 3(3-0) HRT 101, BOT 201, CSS 210.
Cool season vegetable crops, with emphasis on botany, taxonomy, morphology, growth processes, production, harvesting, handling, quality and composition.

457. Cool Season Vegetables 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.

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.

805. 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 be repeated 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 be repeated 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.
Selected topics in plant breeding including: host-plant resistance, nutrition and quality, computerized records and data analysis, classical literature and strategies for improving field, horticulture, and forestry crops.

816. Special Problems in Plant Breeding and Genetics
Fall, Winter, Spring, Summer, 1 to 3 credits. May be repeated 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 822, 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 be repeated for a maximum of 12 credits. Approval of department.

831. Selected Topics
Fall, Winter, Spring, Summer, 1 to 4 credits. May be repeated for a maximum of 12 credits if different topics are taken. Approval of department.

836. Evolution of Crop Plants
Spring of odd-numbered years, 3(0-0) 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
(440) Winter 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 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 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 450, BOT 451, CSS 452.
Interactions between plants affecting mortality and plastic responses in horticultural, agronomic, and forest systems, including interference and symbiosis.

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

941. Quantitative Genetics in Plant Breeding
Spring of even-numbered years, 4(4-0) STT 423, CSS 822. Interdepartmental with the departments of Crop and Soil Sciences, and Forestry. Administered by the Department of Crop and Soil Sciences.

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 genealogy.

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.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Semester(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRI 252</td>
<td>Approvals of School</td>
<td>3</td>
<td>Fall, Winter, Spring</td>
<td>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.</td>
</tr>
<tr>
<td>HRI 337</td>
<td>Managerial Finance for the Hospitality Industry</td>
<td>3</td>
<td>Fall, Winter, Spring</td>
<td>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.</td>
</tr>
<tr>
<td>HRI 385</td>
<td>Food and Beverage Management</td>
<td>3</td>
<td>Fall, Winter, Spring</td>
<td>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.</td>
</tr>
<tr>
<td>HRI 435</td>
<td>Food Production Systems</td>
<td>3</td>
<td>Fall, Winter, Spring</td>
<td>Recognition and achievement of quality in development of systematic relationships between menu items, time, labor, equipment and costs in quantity food production. Quality procurement policies for hotel, beverages and related items. Field trips required.</td>
</tr>
<tr>
<td>HRI 455A</td>
<td>Food Evaluation</td>
<td>1</td>
<td>Spring</td>
<td>History of foods and related physiological and psychological theories and their application to quality consideration.</td>
</tr>
<tr>
<td>HRI 455B</td>
<td>Beverage Evaluation</td>
<td>1</td>
<td>Fall</td>
<td>History of beverages and related physiological and psychological theories and their application to quality considerations.</td>
</tr>
<tr>
<td>HRI 462</td>
<td>Tourism Management</td>
<td>3</td>
<td>Winter</td>
<td>Tourism organizations, functions, and policy determination; tour wholesaling and retail travel agency management. Field trip required.</td>
</tr>
<tr>
<td>HRI 463</td>
<td>Tourism Distribution Management</td>
<td>3</td>
<td>Fall</td>
<td>Component channels of the tourism distribution system. Functional interrelationships of these channels with emphasis on increasing distribution effectiveness. Field trips required.</td>
</tr>
<tr>
<td>HRI 472</td>
<td>Design and Layout</td>
<td>3</td>
<td>Winter, Spring</td>
<td>Conceptualization, design, layout and specification of service industry facilities.</td>
</tr>
</tbody>
</table>
Courses of Descriptions - Hotel, Restaurant and Institutional Management

HUMAN ECOLOGY 
(COLLEGE OF)

201. Perspectives in Human Ecology 
(F, E, H, I.) Fall, Winter, 3(3-0) Sophomores.

HUMAN ENVIRONMENT AND DESIGN 
HED

College of Human Ecology

143. Design for Living I 
Fall, Winter, Spring, 3(3-0)
Perceptual development including analytical judgement through the study of design, a vital part of the matrix of living. Design components and principles as they relate to the function and ideas in the various phases of human environment and daily life.

144. Design for Living II 
Fall, Spring, 3(3-4) HED 143.
Use of design elements and application of principles in creative problems and media.

155. Clothing Construction Studio 
(HED 152.) Fall, Winter, Spring, 3(1-4)
Emphasis on fit, alterations, different techniques in assembling apparel. Basic principles of clothing construction. Completed garments required.

171. Textiles for Consumers 
Fall, Winter, Spring, 4(4-0)
A programmed sequence develops decision-making abilities in the selection of textile alternatives for various uses. Consumer-oriented concepts of durability, comfort, care and aesthetic appearance are used to evaluate products.

201. Contemporary Merchandising Management 
Fall, Winter, Spring, 3(3-0) Sophomores.
Merchandisers supplying goods and services for consumer needs.

203. Selected Non-Textile and Apparel Merchandise 
Winter, Spring, 3(3-0) HED 143.
Selected non-textile and apparel merchandise as it fulfills consumer needs and expectations.

215. Interior Environments 
Fall, Winter, Spring, 3(3-0) HED 215.
Perceptual development including analytical judgement through the study of design, a vital part of the matrix of living. Design components and principles as they relate to the function and ideas in the various phases of human environment and daily life.

216. Interior Environments: Studio 
Fall, Winter, Spring, 3(0-6) HED 216 or concurrently. Students may not receive credit in both HED 216 and HED 211, HED 214.
Application of design fundamentals.

220. Interior Space Design 
Fall, Winter, Spring, 3(0-6) HED 215, HED 216 or concurrently.
Basic designing and drawing of interior space in relationship to human needs.

221. Interior Color and Texture Design 
Winter, Spring, 3(0-6) HED 220.
The manipulation and development of color and texture as components of environmental space design.

223. Interior Design Synthesis I 
(222.) Fall, Spring, 3(0-6) HED 221.
Experimentation and representation of space, color and texture as they relate to environmental interior design.

239. Housing Conservation 
Spring, 3(0-6) Interdepartmental with and administered by Building Construction Management.
Skills and techniques in conserving, repairing and remodeling existing housing. Structural components of housing and evaluation of housing structure.

251. Aesthetics of Dress 
(HED 254.) Winter, Spring, 3(3-0) HED 143 or approval of department.
Analysis of clothing as an aesthetic expression. Emphasis on design principles as they apply to costume.

253. Costume Design Studio 
(HED 353.) Spring, 3(6-0) HED 143, HED 253 or concurrently.
Execution, illustration and critique of functional, structural, and decorative clothing design. Studio experience.

255. Advanced Clothing Construction Studio 
(HED 252.) Fall, Winter, Spring, 3(2-2) HED 155 or pass placement exam and review.
Application of principles of clothing construction with emphasis on fitting, alteration and couturier construction techniques. Experimental execution and evaluation of techniques.

290. Portfolio Development: Independent Study 
Fall, 3 to 6 credits. May renewable for a maximum of 6 credits. STA 141, HED 231, HED 253.
Supervised independent study aimed at the development of a portfolio of clothing designs.

302. Clothing and Textiles Production and Distribution 
(409.) Winter, Spring, 3(3-0) Juniors.
Historical development of the foreign and domestic apparel industries. Present organization of the apparel industry in major foreign markets and primary and regional markets in the United States.

303. Interior Design Construction Components 
Spring, 3(2-2) HED 220 or approval of department.
Characteristics of materials and structural systems, methods of construction, and social and legal constraints as they affect human needs in interiors. Field trip required.

310. Interior Design Material and Workroom Practices 
(320.) Fall, 3(2-2) HED 223 or approval of department. Junior Interior Design majors.
The material used to create design in near-environment space and the workroom practices used to accomplish an installation after it has been designed.

311. Interior Perspective and Media 
(324.) Fall, 3(3-0) HED 223.
The development of methods for design communication through manipulation of three-dimensional drawings in many media.

312. Interior Design Lighting and Environmental Systems 
(322.) Winter, 3(3-0) HED 223.
Lighting and environmental systems as related to interior design. Systems include light, ventilation, acoustics, heating and cooling and their integration with interior space. Field trip required.

313. Interior Design - Human Dimensions 
Winter, 3(2-2) HED 310, HED 311 or approval of department. Senior Interior Design majors.
Human dimensions as determining factors in human environments and their design.

314. Contemporary Design Problems 
Winter, 3(3-0) Juniors.
Current and controversial issues perceived as important to future designs or designers.

316. Interior Design Synthesis II 
(326.) Spring, 3(0-6) HED 315, HED 313. Senior Interior Design majors.
Application of problem solving process to situations brought by clients.

332. Human Needs in Housing 
Fall, Winter, Spring, 3(3-0)
Near environment studied as a determinant of individual and family development. Content and discussions focus on interpreting human-environment relations for planning and design of housing.

355. Design Analysis: Flat Pattern 
Fall, 4(4-0) HED 355.
Emphasis on flat pattern techniques necessary to develop garment design from basic patterns.

360. Merchandising I: Apparel and Home Furnishing Accessories 
Winter, Spring, 4(4-0) HED 201, MTA 351, ACC 201 or ACC 350.
Decision-making application to the merchandising function. Merchandising mathematics: methods, procedures, and planning of merchandising budgets. Management of analysis information as provided by electronic data processing and other sources.