Department of Food Science and Human Nutrition

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fshn.chhs.colostate.edu (http://fshn.chhs.colostate.edu)

Michael Pagliassotti, Ph.D., Department Head
Dietetic Program Director, Mary Harris, Ph.D., R.D.
Hospitality Management Program Coordinator, Jeff Miller, Ph.D.
Fermentation Science and Technology Coordinators, Martha Stone, Ph.D., and Jeff Callaway
Graduate Coordinator, Garry Auld, Ph.D.

Undergraduate

Majors

• Major in Nutrition and Food Science
  • Dietetics and Nutrition Management Concentration
    • Accredited Didactic Program Option
  • Childhood Nutrition Option
  • Gerontology Nutrition Option
• Food Safety and Nutrition Concentration
• Nutrition and Fitness Concentration
• Nutritional Sciences Concentration
• Major in Hospitality Management
• Major in Fermentation Science and Technology

Minors

• Minor in Nutrition
• Food Science/Safety Interdisciplinary Minor

Graduate

Graduate Programs in Food Science and Human Nutrition

At the graduate level, both M.S. and Ph.D. degrees are offered in Food Science and Nutrition. Students interested in graduate work should refer to the Graduate and Professional Bulletin and the Department of Food Science and Human Nutrition (http://www.fshn.chhs.colostate.edu).

Certificates

• Nutrition Sciences

Master Programs

• Master of Science in Food Science and Nutrition, Plan A*
• Master of Science in Food Science and Nutrition, Plan B*
• Master of Science in Food Science and Nutrition, Dietetics Option (Online)

Ph.D.

• Ph.D in Food Science and Nutrition*

* Please see department for program of study.

Courses

Subjects in this department include: Food Science and Human Nutrition (FSHN) and Food Technology (FTEC) and Hospitality Management (RRM).

Food Science and Human Nutrition (FSHN)

FSHN 125 Food and Nutrition in Health Credits: 2 (2-0-0)
Course Description: Nutritional quality and safety of food related to human health.
Prerequisite: None.
Terms Offered: Fall, Spring.
Grade Mode: S/U within Student Option, Trad within Student Option.
Special Course Fee: No.

FSHN 150 Survey of Human Nutrition Credits: 3 (3-0-0)
Course Description: Basic nutrition principles and concepts; their application to personal health and interactions with societal and environmental issues.
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 192 First Year Seminar Credit: 1 (0-0-1)
Course Description: Facilitate a successful transition to college for new incoming students by emphasizing personal growth and identifying campus resources.
Prerequisite: None.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 300 Food Principles and Applications Credits: 3 (3-0-0)
Course Description: Application of food preparation theories to modification and evaluation of food products.
Prerequisite: (CHEM 103 or CHEM 107 or CHEM 111) and (FSHN 150).
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 301 Food Principles and Applications Laboratory Credits: 2 (0-6-0)
Course Description: Techniques and manipulative skills for preparation and evaluation of standard and modified food products.
Prerequisite: FSHN 300, may be taken concurrently.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: Yes.
FSHN 350 Human Nutrition  Credits: 3 (3-0-0)
Course Description: Metabolism of macro and micronutrients; physiologic basis underlying dietary recommendations for human health. Nutrients, dietary requirements for physical well-being; evaluation of various diets.
Prerequisite: FSHN 350.
Term Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 360 Nutrition Assessment  Credits: 2 (2-0-0)
Course Description: Principles of anthropometric, dietary, and biochemical assessment of nutritional status.
Prerequisite: FSHN 350.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 386A Practicum: Food Service Management  Credits: 2 (0-0-4)
Course Description: 
Prerequisite: None.
Term Offered: Fall, Spring, Summer.
Grade Mode: S/U Sat/Unsat Only.
Special Course Fee: No.

FSHN 386B Practicum: Gerontology  Credits: 3 (0-0-9)
Course Description: 
Prerequisite: None.
Term Offered: Fall, Spring, Summer.
Grade Mode: S/U Sat/Unsat Only.
Special Course Fee: No.

FSHN 386C Practicum: School Nutrition  Credits: 3 (0-0-9)
Course Description: 
Prerequisite: None.
Term Offered: Fall, Spring.
Grade Mode: S/U Sat/Unsat Only.
Special Course Fee: No.

FSHN 392 Dietetic Practice Seminar  Credit: 1 (0-0-1)
Course Description: Pre-professional skills to prepare students for the pursuit of careers in the field of dietetics.
Prerequisite: (CHEM 107 with a minimum grade of B and CHEM 108 with a minimum grade of B or CHEM 111 with a minimum grade of B and CHEM 112 with a minimum grade of B and CHEM 113 with a minimum grade of B) and (LIFE 102 with a minimum grade of B or BZ 111 with a minimum grade of B) and (BMS 300 with a minimum grade of B) and (CHEM 245 or CHEM 341). 
Registration Information: 3.000 overall GPA.
Term Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 428 Nutrition Teaching and Counseling Techniques  Credits: 3 (3-0-0)
Course Description: Objectives, principles, and organization of subject matter for nutrition education and counseling.
Prerequisite: FSHN 350.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 444 Nutrition and Aging  Credit: 1 (1-0-0)
Course Description: Effect of aging on nutrient needs and impact of nutrition on successful aging and health in the elderly.
Prerequisite: FSHN 150.
Registration Information: Admission to Gerontology Interdisciplinary Studies Program can be substituted for FSHN 150. Credit not allowed for both FSHN 444 and FSHN 459. Sections may be offered: Online.
Term Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 445 Early Childhood Health, Safety, and Nutrition  Credits: 3 (0-0-3)
Also Offered As: HDFS 445.
Course Description: Planning, promoting and maintaining healthy lifestyle and safe learning environment for preschool children.
Prerequisite: HDFS 310 or PSY 260.
Registration Information: Must register for lecture and laboratory.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: Yes.

FSHN 451 Community Nutrition  Credits: 3 (3-0-0)
Course Description: Influences on nutritional status, assessment of nutrition problems and needs, planning and evaluation of nutrition intervention programs.
Prerequisite: FSHN 350, may be taken concurrently.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 455 Food Systems: Impact on Health/Food Security  Credits: 2 (1-0-1)
Course Description: Conventional and alternative food systems and their impact on nutrition, health, food security, and the environment.
Prerequisite: FSHN 350 or FTEC 447.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 459 Nutrition in the Life Cycle  Credits: 3 (3-0-0)
Course Description: Nutritional aspects associated with each phase of human life cycle including pregnancy, infancy, childhood, adolescence, and early and late adulthood.
Prerequisite: FSHN 350.
Registration Information: Credit not allowed for both FSHN 459 and FSHN 444.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.
FSHN 470 Integrative Nutrition and Metabolism  Credits: 3 (3-0-0)
Course Description: Influence of nutrition on roles and action of hormones and gene expression on metabolism.
Prerequisite: BC 351 and FSHN 350.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 484 Supervised College Teaching  Credits: Var[1-3] (0-0-0)
Course Description:
Prerequisite: None.
Registration Information: A maximum of 10 combined credits for all 384 and 484 courses are counted towards graduation requirements.
Terms Offered: Fall, Spring.
Grade Mode: Instructor Option.
Special Course Fee: No.

FSHN 486A Practicum: Counseling  Credits: Var[1-3] (0-0-0)
Course Description:
Prerequisite: FSHN 350.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

FSHN 486C Practicum: Food Service Management  Credits: Var[1-3] (0-0-0)
Course Description: Supervised off-campus experience in food service management.
Prerequisite: FSHN 310.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

FSHN 492 Seminar in Dietetics and Nutrition  Credits: 2 (0-0-2)
Course Description: Capstone seminar in nutrition and dietetics.
Prerequisite: None.
Restriction: Must be a: Senior, Senior - 5yr Bachelor, Senior - Post Bachelor, Senior - Second Bachelor.
Registration Information: Senior standing.
Term Offered: Spring.
Grade Mode: Instructor Option.
Special Course Fee: No.

FSHN 495A Independent Study: Nutrition  Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

FSHN 495B Independent Study: Food Service Management  Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

FSHN 496A Group Study in Dietetics and Nutrition: Energy, Weight Management  Credit: 1 (1-0-0)
Course Description: Current topics in nutrition and professional skills for the dietetics profession.
Prerequisite: FSHN 350.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 496B Group Study in Dietetics and Nutrition: Sustainable Food Issues  Credit: 1 (1-0-0)
Course Description: Current topics in nutrition and professional skills for the dietetics profession.
Prerequisite: FSHN 350.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 496C Group Study in Dietetics and Nutrition: Nutrition and Chronic Disease  Credit: 1 (1-0-0)
Course Description: Current topics in nutrition and professional skills for the dietetics profession.
Prerequisite: FSHN 350.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 496D Group Study in Dietetics and Nutrition: Nutrition for Athletes  Credit: 1 (1-0-0)
Course Description: Current topics in nutrition and professional skills for the dietetics profession.
Prerequisite: FSHN 350.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 496E Group Study in Dietetics and Nutrition: Food Safety  Credit: 1 (1-0-0)
Course Description: Current topics in nutrition and professional skills for the dietetics profession.
Prerequisite: FSHN 350.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 496F Group Study in Dietetics and Nutrition: Service Marketing  Credit: 1 (1-0-0)
Course Description: Current topics in nutrition and professional skills for the dietetics profession.
Prerequisite: FSHN 350.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 496G Group Study in Dietetics and Nutrition: Food and Consumer Issues  Credit: 1 (1-0-0)
Course Description: Current topics in nutrition and professional skills for the dietetics profession.
Prerequisite: FSHN 350.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.
FSHN 496H Group Study in Dietetics and Nutrition: Public Health and Policy Credit: 1 (1-0-0)
Course Description: Current topics in nutrition and professional skills for the dietetics profession.
Prerequisite: FSHN 350.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 496I Group Study in Dietetics and Nutrition: Special Topics Credit: 1 (1-0-0)
Course Description: Current topics in nutrition and professional skills for the dietetics profession.
Prerequisite: FSHN 350.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 500 Food Systems, Nutrition, and Food Security Credits: 2 (2-0-0)
Course Description: Global and local food systems and their potential influence on nutrition and food security.
Prerequisite: FSHN 350.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 501 Research Methods in Dietetics Credits: 3 (0-0-3)
Course Description: Testing and generating theory. Methods for collecting and analyzing quantitative and qualitative data, critique of research and proposal development.
Prerequisite: None.
Registration Information: Admission to GP-IDEA program in dietetics. Offered as an online course only.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 503 Issues in Dietetics Practice Credits: 3 (0-0-3)
Course Description: Environment in which foodservice, hospitality, and healthcare organizations operate; impact of change on hospitality and healthcare organizations.
Prerequisite: None.
Registration Information: Admission to GP-IDEA program in dietetics. Offered as an online course only.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 504 Micronutrients Credits: 3 (0-0-3)
Course Description: Coordination of structure and function related to metabolic needs as a basis for evaluating micronutrient needs in normal or altered metabolic states.
Prerequisite: None.
Registration Information: Admission to GP-IDEA program in dietetics. Offered as an online course only.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 505 Nutrition and Physical Activity in Aging Credits: 3 (0-0-3)
Course Description: Physiological changes during aging and impacts on health and disease; focus on successful aging with emphasis on physical activity and nutrition.
Prerequisite: None.
Registration Information: Admission to GP-IDEA program in dietetics. Offered as an online course only.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 506 Nutrition and Human Performance Credits: 3 (0-0-3)
Course Description: Relationship of specific nutrients and optimal nutrition to physical efficiency and performance.
Prerequisite: None.
Registration Information: Admission to GP-IDEA program in dietetics. Offered as an online course only.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 507 Nutrition Education in the Community Credits: 3 (0-0-3)
Course Description: Principles and practices of teaching individuals and groups to translate nutrition knowledge into action. Emphasis on research and evaluation.
Prerequisite: None.
Registration Information: Admission to GP-IDEA program in dietetics. Offered as an online course only.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 508 International Nutrition and World Hunger Credits: 3 (0-0-3)
Course Description: Magnitude, causes, and nature of hunger and undernourishing; programs and policies to alleviate hunger.
Prerequisite: None.
Registration Information: Admission to GP-IDEA program in dietetics. Offered as an online course only.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 509 Nutrition Counseling and Education Methods Credits: 3 (0-0-3)
Course Description: Application of learning theories and nutrition counseling with individuals and groups in the community and clinical settings.
Prerequisite: None.
Registration Information: Admission to GP-IDEA program in dietetics. Offered as an online course only.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 510 Pediatric Clinical Nutrition Credits: 3 (0-0-3)
Course Description: Physiological, biochemical and nutritional aspects of disease processes relevant to infants and children up to 18 years of age.
Prerequisite: None.
Registration Information: Admission to GP-IDEA program in dietetics. Offered as an online course only.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.
FSHN 511 Maternal and Child Nutrition  Credits: 3 (0-0-3)
Course Description: Behavioral, physiological and public health issues impacting dietary and nutritional factors that support growth and development.
Prerequisite: None.
Registration Information: Admission to GP-IDEA program in dietetics; written permission of instructor. Offered as an online course only.
Terms Offered: Fall, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 512 Nutritional Aspects of Oncology  Credits: 3 (0-0-3)
Course Description: Relationships between nutrition and cancer including the role of nutrition in specific cancers, cancer prevention and patient management.
Prerequisite: None.
Registration Information: Admission to GP-IDEA program in dietetics. Offered as an online course only.
Term Offered: Summer.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 520 Advanced Medical Nutrition Therapy  Credits: 3 (3-0-0)
Course Description: Role of nutrition in etiology and treatment of selected disorders.
Prerequisite: FSHN 550 or FSHN 551.
Registration Information: FSHN 550 or FSHN 551 or admission to GP-IDEA program in Dietetics. Sections may be offered: Online.
Term Offered: Summer.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 525 Nutrition Education Theories and Practice  Credits: 2 (2-0-0)
Course Description: Examination of current theories, skills, and models used in nutrition education programs as preparation for research and practice.
Prerequisite: FSHN 350.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 530 Principles of Nutrition Science & Metabolism  Credits: 3 (3-0-0)
Course Description: Science of nutrition, including the ingestion and digestion of food, the absorption, transport, and metabolism of macro and micronutrients, energy balance and bodyweight regulation, and relationships to health and risk of disease. Structure, functional roles, and metabolic regulation of carbohydrates, lipids, and proteins during conditions of fasting, feeding, and exercise. The role of vitamins and minerals in cellular and whole body homeostasis.
Prerequisite: BMS 300 or CHEM 245 or LIFE 102.
Registration Information: Graduate standing. Offered as an online course only.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 531 Diet, Nutrition, and Chronic Disease  Credits: 3 (2-0-1)
Course Description: Principles related to the role of diet and nutrition in obesity, digestive health, type 2 diabetes, cardiovascular disease, and cancer with a focus on current evidence and best practices for prevention.
Prerequisite: FSHN 520.
Registration Information: Graduate standing. Offered as an online course only.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 532 Emerging Issues in Nutrition  Credits: 3 (2-0-1)
Course Description: Principles related to emerging areas of nutrition and their role in health promotion. Focus is on current research related to micronutrients and supplements, sports nutrition, food safety and technology, food systems, nutrition and aging, and nutrigenomics.
Prerequisite: FSHN 530.
Registration Information: Graduate standing. Offered as an online course only.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 533 Nutrigenomics and Advanced Lipid Metabolism  Credits: 3 (0-0-3)
Course Description: How nutrients regulate gene expressions (nutrigenetics) and how genotype influences an individual's nutrient requirements (nutrigenomics).
Prerequisite: None.
Registration Information: Admission to GP-IDEA program in Dietetics. Offered as an online course only.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 540 Advanced Nutritional Science I  Credits: 3 (3-0-0)
Course Description: Protein, vitamin, mineral metabolism; human studies, animal models.
Prerequisite: (BC 351 or BC 403) and (FSHN 350).
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 550 Advanced Nutritional Science II  Credits: 3 (3-0-0)
Course Description: Carbohydrate, lipid, energy metabolism; human studies, animal models.
Prerequisite: (BC 351 or BC 403) and (FSHN 350).
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 575 Nutrition Education for a Healthy Heart  Credit: 1 (0-0-1)
Course Description: Nutrition-related issues of atherosclerotic cardiovascular disease risk reduction and background in the art/science of facilitating behavior change.
Prerequisite: None.
Registration Information: Offered as an online course only.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.
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FSHN 586 Practicum-Advanced Clinical Nutrition  Credits: Var[1-3] (0-0-0)
Course Description:
Prerequisite: None.
Term Offered: Summer.
Grade Mode: S/U Sat/Unsat Only.
Special Course Fee: No.

FSHN 587A Internship: Clinical Dietetics  Credits: 6 (0-18-0)
Course Description:
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

FSHN 587B Internship: Community Dietetics  Credits: 6 (0-18-0)
Course Description:
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

FSHN 587C Internship: Food Service Management  Credits: 6 (0-18-0)
Course Description:
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

FSHN 590 Workshop  Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Term Offered: Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

FSHN 620 Community Nutrition Planning and Evaluation  Credits: 3 (2-0-1)
Course Description: Community nutrition assessment; nutrition program planning and evaluation; nutrition policy analysis.
Prerequisite: FSHN 350.
Restriction: Must be a: Graduate, Graduate cooperative program, Professional.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 628 Advanced Nutrition Counseling Techniques  Credits: 2 (2-0-0)
Course Description: Principles, strategies and techniques for interviewing, assessing and providing nutrition counseling in community settings.
Prerequisite: None.
Restriction: Must be a: Graduate, Graduate cooperative program, Professional.
Term Offered: Fall.
Grade Mode: Instructor Option.
Special Course Fee: No.

FSHN 630 Integrative Exercise and Nutrition Metabolism  Credits: 3 (3-0-0)
Also Offered As: HES 630.
Course Description: Advances in integrative human metabolism under conditions of changing energy flux.
Prerequisite: HES 610 and FSHN 551.
Restriction: Must be a: Graduate, Professional.
Registration Information: Credit not allowed for both FSHN 630 and HES 630.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 640 Selected Topics in Nutritional Epidemiology  Credits: 2 (2-0-0)
Course Description: Overview of topics in nutritional epidemiology; study design, interpretation of findings, linkage of data to action.
Prerequisite: (FSHN 350) and (STAT 301 or STAT 307 or ERHS 307).
Restriction: Must be a: Graduate, Professional.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 650A Recent Developments in Human Nutrition: Protein, Vitamins, and Minerals  Credits: 2 (2-0-0)
Course Description: Appraisal of literature on human nutritional status.
Prerequisite: FSHN 550.
Restriction: Must be a: Graduate, Graduate cooperative program, Professional.
Term Offered: Fall (even years).
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 650B Recent Developments in Human Nutrition: Carbohydrates, Lipids, and Energy  Credits: 2 (2-0-0)
Course Description: Appraisal of literature on human nutritional status.
Prerequisite: FSHN 551.
Restriction: Must be a: Graduate, Professional.
Term Offered: Fall (odd years).
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 650C Recent Developments in Human Nutrition: Genomic, Proteomics, and Metabolomics  Credits: 2 (2-0-0)
Course Description: Appraisal of literature on human nutritional status.
Prerequisite: FSHN 551.
Restriction: Must be a: Graduate, Professional.
Term Offered: Spring (even years).
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 660 Women's Issues in Lifecycle Nutrition  Credits: 2 (2-0-0)
Course Description: Current nutritional issues related to selected stages of the lifecycle compared to normal adult nutritional needs.
Prerequisite: FSHN 459.
Restriction: Must be a: Graduate, Professional.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.
FSHN 661  International Nutrition  Credits: 2 (2-0-0)
Course Description: Roles of technological programs and international agencies in meeting nutritional needs.
Prerequisite: FSHN 350.
Restriction: Must be a: Graduate, Professional.
Term Offered: Fall (even years).
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 670 Laboratory Methods  Credits: 2 (1-2-0)
Course Description: Laboratory techniques and instrumentation in nutrition and food science.
Prerequisite: CHEM 245 or CHEM 246.
Restriction: Must be a: Graduate, Professional.
Registration Information: Must register for lecture and laboratory.
Term Offered: Fall (odd years).
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 675 Regulation of Energy Intake  Credits: 3 (3-0-0)
Course Description: Central and peripheral mechanisms controlling energy intake with emphasis on humans. Current theories, experimental approaches, and new research.
Prerequisite: FSHN 350 and PSY 454.
Restriction: Must be a: Graduate, Professional.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 684 Supervised College Teaching  Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring.
Grade Mode: Instructor Option.
Special Course Fee: No.

FSHN 686A Practicum: Counseling  Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: FSHN 520.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring.
Grade Mode: S/U Sat/Unsat Only.
Special Course Fee: Yes.

FSHN 686B Practicum: Nutrition  Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring.
Grade Mode: S/U Sat/Unsat Only.
Special Course Fee: No.

FSHN 686C Practicum: Food Services  Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring.
Grade Mode: S/U Sat/Unsat Only.
Special Course Fee: No.

FSHN 692 Seminar  Credit: 1 (0-0-1)
Course Description:
Prerequisite: None.
Restric tion: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

FSHN 695A Independent Study: Food Science  Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

FSHN 695B Independent Study: Nutrition  Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

FSHN 695C Independent Study: Food Service Management  Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

FSHN 696A Group Study: Food Science  Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

FSHN 696B Group Study: Nutrition  Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

FSHN 696C Group Study: Dietetics  Credit: 1 (0-0-1)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Registration Information: Sections may be offered: Online.
Terms Offered: Fall, Spring.
Grade Mode: S/U Sat/Unsat Only.
Special Course Fee: No.

FSHN 696D Group Study: Exercise and Nutrition  Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.
FSHN 698A Research: Dietetics Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Registration Information: Admission to the GP-IDEA program in Dietetics. Offered as an online course only.
Terms Offered: Fall, Spring, Summer.
Grade Mode: S/U Sat/Unsat Only.
Special Course Fee: No.

FSHN 698B Research: Nutrition Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: S/U Sat/Unsat Only.
Special Course Fee: No.

FSHN 698C Research: Food Service Management Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: S/U Sat/Unsat Only.
Special Course Fee: No.

FSHN 699B Thesis: Nutrition Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

FSHN 699C Thesis: Food Service Management Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

FSHN 700 Cellular Nutrition Credits: 2 (2-0-0)
Course Description: Essential nutrient requirements of cells and organs.
Prerequisite: FSHN 550 and FSHN 551 or BC 403 and BMS 501.
Restriction: Must be a: Graduate, Professional.
Term Offered: Fall (odd years).
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 750 Nutritional Basis of Chronic Disease Credits: 2 (2-0-0)
Course Description: Role of nutrition in the pathogenesis and prevention of specific chronic diseases.
Prerequisite: FSHN 550 and FSHN 551.
Restriction: Must be a: Graduate, Professional.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 792 Seminar-Research Topics in Nutrition Credit: 1 (0-0-1)
Course Description: Ph.D. seminar in literature review.
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

FSHN 795 Independent Study Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

FSHN 796 Group Study Credit: 1 (0-0-1)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

FSHN 799 Dissertation-Nutrition Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

Food Technology (FTEC)
FTEC 110 Food-From Farm to Table Credits: 3 (3-0-0)
Course Description: Commercial food processing, related to preservation and enhancing of food quality, safety, and value.
Prerequisite: None.
Term Offered: Spring.
Grade Modes: S/U within Student Option, Trad within Student Option.
Special Course Fee: No.

FTEC 210 Science of Food Fermentation Credits: 3 (2-2-0)
Course Description: Science, history, culture, gastronomy, safety, health, and nutrition aspects of fermented foods and beverages.
Prerequisite: (CHEM 107 or CHEM 111) and (LIFE 102 or BZ 111 and BZ 110).
Registration Information: Must register for lecture and laboratory.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: Yes.

FTEC 350 Fermentation Microbiology Credits: 2 (2-0-0)
Course Description: Integration of fermentation science, microbiology, and chemistry.
Prerequisite: CHEM 245 or FTEC 210 or LIFE 206 or MIP 302.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.
FTEC 360 Brewing Processes Credits: 3 (1-4-0)
Course Description: Influence of raw material selection, malting, mashing, boiling, and fermentation on quality of beverages.
Prerequisite: CHEM 245 and FTEC 210.
Registration Information: Must register for lecture and laboratory.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

FTEC 400 Food Safety Credits: 3 (3-0-0)
Course Description: Safety of human food emphasizing safe production, processing, marketing, preparation, consumption, and regulations.
Prerequisite: CHEM 107 or CHEM 111.
Term Offered: Fall.
Grade Modes: S/U within Student Option, Trad within Student Option.
Special Course Fee: No.

FTEC 422 Brewing Analysis and Quality Control Credits: 2 (1-2-0)
Course Description: Assessment, quantification, and control of various aspects of commercial beer production.
Prerequisite: FTEC 460, may be taken concurrently and FTEC 360.
Registration Information: Must register for lecture and laboratory. Required field trips.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: Yes.

FTEC 430 Sensory Evaluation of Fermented Products Credits: 2 (1-2-0)
Course Description: Application of sensory evaluation techniques to the study of fermented foods.
Prerequisite: FSHN 301 or FTEC 210.
Term Offered: Spring (odd years).
Grade Mode: Traditional.
Special Course Fee: Yes.

FTEC 440 Refining and Packaging Technology Credits: 2 (2-0-0)
Course Description: Science, technology, and management of refining and packaging.
Prerequisite: FTEC 360.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

FTEC 447 Food Chemistry Credits: 2 (2-0-0)
Course Description: Chemistry of food constituents as related to food quality and stability.
Prerequisite: CHEM 245 or CHEM 345.
Term Offered: Spring (odd years).
Grade Mode: Traditional.
Special Course Fee: No.

FTEC 460 Brewing Science and Technology Credits: 3 (2-2-0)
Course Description: Scientific and technical aspects of brewing, fermenting, finishing, and evaluating microbrewed style of lagers and ales.
Prerequisite: (CHEM 245) and (MATH 118).
Registration Information: 21 years of age. Must have completed 60 credits. Must register for lecture and laboratory.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: Yes.

FTEC 465 Food Production Management Credits: 2 (2-0-0)
Course Description: Production, operation, and management techniques used in the food industry at company, local and international levels.
Prerequisite: FTEC 360, may be taken concurrently.
Term Offered: Fall (odd years).
Grade Mode: Traditional.
Special Course Fee: No.

FTEC 478 Phytochemicals and Probiotics for Health Credits: 2 (2-0-0)
Course Description: Examination of phytochemistry and probiotic organisms important in human health.
Prerequisite: BC 351.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

FTEC 487 Internship Credits: Var[1-15] (0-0-0)
Course Description: Capstone seminar in fermentation science and food safety.
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

FTEC 492 Seminar: Fermentation Science and Food Safety Credits: 2 (1-0-1)
Course Description: Seminar in fermentation science and food safety.
Prerequisite: None.
Registration Information: Senior standing.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

FTEC 495 Independent Study Credits: Var[1-18] (0-0-0)
Course Description: Independent study in fermentation science and food safety.
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

FTEC 496A Group Study Fermentation Science: Current Issues Credit: 1 (0-0-1)
Course Description: Group study in fermentation science: current issues.
Prerequisite: FSHN 350 or FTEC 360.
Term Offered: Spring (even years).
Grade Mode: Traditional.
Special Course Fee: No.

FTEC 496B Group Study Fermentation Science: Functional Foods in Health Credit: 1 (0-0-1)
Course Description: Group study in fermentation science: functional foods in health.
Prerequisite: FSHN 350 or FTEC 360.
Term Offered: Spring (even years).
Grade Mode: Traditional.
Special Course Fee: No.

FTEC 570 Food Product Development Credits: 2 (2-0-0)
Course Description: Food product concepts, feasibility, and evaluation.
Prerequisite: FTEC 447.
Term Offered: Fall (even years).
Grade Mode: Traditional.
Special Course Fee: No.
**Hospitality Management-RRM (RRM)**

**RRM 101 Hospitality Industry Credits: 3 (3-0-0)**  
Course Description: Food service, lodging, and tourism industries; exploration of various industry segments and career opportunities.  
Prerequisite: None.  
Terms Offered: Fall, Spring.  
Grade Mode: Traditional.  
Special Course Fee: No.

**RRM 200 Hotel Operations Credits: 3 (3-0-0)**  
Course Description: Front office and room management as related to resorts and hotels. Computer application, financial controls, employee and guest relations.  
Prerequisite: RRM 101.  
Terms Offered: Fall, Spring.  
Grade Mode: Traditional.  
Special Course Fee: No.

**RRM 310 Food Service Systems-Operations Credits: 3 (3-0-0)**  
Course Description: Technical operations: menu planning, evaluation, recipe standardization, forecasting, food cost, sanitation, hospital food distribution systems.  
Prerequisite: None.  
Registration Information: Sections may be offered: Online.  
Terms Offered: Fall, Spring, Summer.  
Grade Mode: Traditional.  
Special Course Fee: No.

**RRM 311 Food Service Systems-Production and Purchasing Credits: 3 (3-0-0)**  
Course Description: Quantity food production principles, purchasing specifications, market channels.  
Prerequisite: RRM 310.  
Registration Information: Sections may be offered: Online.  
Terms Offered: Fall, Spring, Summer.  
Grade Mode: Traditional.  
Special Course Fee: No.

**RRM 312 Hospitality Human Resource Management Credits: 3 (2-0-1)**  
Course Description: Principles and practices of employee management in the hospitality industry including employment process, training, legal aspects, performance.  
Prerequisite: RRM 310.  
Terms Offered: Fall, Spring.  
Grade Mode: Traditional.  
Special Course Fee: No.

**RRM 330 Alcohol Beverage Control and Management Credits: 2 (2-0-0)**  
Course Description: Classification, production, and service of controlled beverages; management of facilities and people; safe service training; financial controls.  
Prerequisite: CHEM 103, may be taken concurrently or CHEM 107, may be taken concurrently or CHEM 111, may be taken concurrently.  
Terms Offered: Fall.  
Grade Modes: S/U within Student Option, Trad within Student Option.  
Special Course Fee: No.
RRM 340 Restaurant Operations Credits: 4 (0-8-0)
Course Description: Principles, practices, philosophies, systems for daily operation of casual or fine dining restaurant; focus on developing solutions to problems.
Prerequisite: RRM 101, may be taken concurrently.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.
RRM 345 Food, Beverage, and Labor Cost Control Credits: 3 (3-0-0)
Course Description: Cost control for food, beverage, and labor in the hospitality industry.
Prerequisite: ACT 205 and CS 110.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.
RRM 350 Hospitality Marketing Credits: 3 (3-0-0)
Course Description: Operations marketing, including consumer behaviors, marketing strategies, and marketing plans in the hospitality industry.
Prerequisite: RRM 101.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.
RRM 386 Practicum Credits: 3 (0-0-9)
Course Description: Practicum in Hospitality Management.
Prerequisite: RRM 101.
Terms Offered: Fall, Spring, Summer.
Grade Mode: S/U Sat/Unsat Only.
Special Course Fee: No.
RRM 400 Food and Society Credits: 3 (2-0-1)
Course Description: Exploration of the influence of food, dining, and nutrition on cultural aspects of the human experience.
Prerequisite: (SOC 100 or PSY 100) and (AMST 100 or AMST 101 or ANTH 140 or NR 320 or HIST 252 or HIST 255 or ETST 250 or ETST 252 or ETST 255 or HIST 101 or HIST 150 or HIST 151 or HIST 171 or HIST 250 or HIST 121) and (AGRI 270 or HIST 170 or AM 250 or ANTH 200 or LJPN 250 or LB 170 or LB 171 or ETST 100 or PHIL 170 or SA 482 or E 238 or E 245 or HIST 100 or ETST 205 or ETST 253 or ETST 256 or PF 110 or HIST 115 or HIST 120 or IE 116 or IE 270 or IE 370 or HORT 171 or SOCR 171 or SOC 205 or POLS 232 or POLS 131 or POLS 241 or ECON 211 or LCHI 250 or LARA 250 or LFRE 250 or LGER 250 or LRUS 250 or LSPA 250 or AGRI 116).
Registration Information: Must register for lecture and recitation.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.
RRM 410 Food Safety Management Credits: 2 (2-0-0)
Course Description: Management and practical applications of safe food service including sanitation, food borne illness, worker hygiene, proper food temperatures and handling, hazard analysis critical control points, local/state/federal health rules and regulations. ServSafe® Manager Certification.
Prerequisite: (CHEM 103 or CHEM 107 or CHEM 111) and (RRM 310).
Registration Information: Junior standing.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.
RRM 415 Catering Techniques and Culinary Arts Credits: 3 (0-6-0)
Course Description: Management of advanced techniques in culinary technique; catering of food and beverages for special functions.
Prerequisite: RRM 311.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: Yes.
RRM 450 Leadership in the Hospitality Industry Credits: 3 (3-0-0)
Course Description: Exploration of leadership skills, their relationship to ethics through self-analysis, and leading change in the hospitality industry.
Prerequisite: RRM 310 and MGT 305.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.
RRM 460 Event and Conference Planning Credits: 3 (3-0-0)
Also Offered As: NRRT 460.
Course Description: Foundation in planning, organizing, and producing special events and conferences. Functions and strategies for effective event management.
Prerequisite: NRRT 270 or RRM 101.
Registration Information: Credit not allowed for both RRM 460 and NRRT 460.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.
RRM 487 Internship: Hospitality Management Credits: 3 (0-0-9)
Course Description: Applying and synthesizing service knowledge and management functions; project discussions, benchmark presentations, execution of a capstone project.
Prerequisite: MKT 305.
Terms Offered: Fall, Spring.
Grade Mode: Instructor Option.
Special Course Fee: Yes.
RRM 492 Seminar on Hospitality Management Credits: 3 (0-0-3)
Course Description: Role of food in the creation of identity, as a driver of technology, and the prominent role food plays in the media.
Prerequisite: RRM 400.
Registration Information: RRM 400 or admission to the GPIdea M.S. in Dietetics program. Sections may be offered: Online.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: Yes.
RRM 500 Understanding Food Credits: 3 (3-0-0)
Course Description: Role of food in the creation of identity, as a driver of technology, and the prominent role food plays in the media.
Prerequisite: RRM 400.
Registration Information: RRM 400 or admission to the GPIdea M.S. in Dietetics program. Sections may be offered: Online.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: Yes.
RRM 510  Foodservice Management  Credits: 2 (1-0-1)
Course Description: Analysis of a wide variety of foodservice operations, including procurement, forecasting, operational design, and menu planning.
Prerequisite: NRRT 402 or NRRT 471.
Registration Information: Must register for lecture and recitation. This is a partial-semester course. Offered as Mixed Face-to-Face only.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

RRM 520  Lodging Management  Credits: 2 (1-0-1)
Course Description: Operating standards and practices essential to the profitability of a hotel, lodging, and accommodation enterprise.
Prerequisite: NRRT 442 or NRRT 471.
Registration Information: Must register for lecture and recitation. This is a partial-semester course. Offered as Mixed Face-to-Face only.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

RRM 604  Research Methods in Food and Nutrition  Credits: 3 (3-0-0)
Course Description: Research techniques used in food and nutrition disciplines. Emphasis on design, preparation, and evaluation of research.
Prerequisite: EDRM 606 or STAT 301 or STAT 311.
Restriction: Must be a: Graduate, Professional.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

RRM 686  Practicum-Food Service Management  Credit: 1 (0-4-0)
Course Description: Food production, menu planning, nutritional analysis and food costing.
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.