DEPARTMENT OF HUMAN ECOLOGY

FNS Course Descriptions
(Food and Nutritional Science)

HMEC-100 (HE) INTRODUCTION TO HUMAN SCIENCES 2:1:1
A survey of Human Sciences as a field of study. The course is designed to acquaint students with the history, philosophy, organizational framework, growth, expansion and present status of Human Sciences. The course involves evaluation and interpretation of the historic human experience and the analysis of current human activities in relation to clothing, fashion, housing, food and nutrition. Two lectures per week and the successful completion of supervised field experiences. Two credits

HMEC-102 (FNS) CONCEPTS IN NUTRITION 2:1:1
Basic principles of nutrition applied to current issues in health maintenance. Areas of discussion included but not limited to diet planning, individual food choices, dietary standards and guidelines, nutrient needs, diet-related diseases, weight control, fitness and disease prevention. Emphasis is placed on improving personal food habits as an important part of health and fitness. For students with little or no science background. Open to non-majors. One lecture and two laboratory periods per week. Two credits

HMEC-105 (FNS) PRINCIPLES & ANALYSIS OF FOOD PREPARATION 3:1:2
This course deals with the scientific principles related to basic food preparation and relates nutrition to food selection, preparation, and preservation. Consideration of how cooking, storing and processing impacts the safety, nutritional value and sensory characteristics of food. One lecture and two laboratory periods per week. Three credits

HMEC-215 (FNS) INTRODUCTION TO NUTRITION 3:3:0
General understanding of the role of gastrointestinal tract in relation to digestion and absorption of nutrients: carbohydrate, fat, protein, vitamins and minerals. Emphasis is placed on nutrient functions, human nutritional requirements, food sources, and role of nutrition in diet-related diseases. Individual library research in some area related to diet-related diseases. Three lectures per week. Prerequisites: BIOL 101&102 OR Anatomy and Physiology (MVSC-202 or BIOL 207 & 208); Co-requisite: CHEM 101 OR CHEM 107. Three credits

HMEC-220 (FNS) INTRODUCTION TO SPORTS NUTRITION 2:2:0
Nutrient utilization by muscle and cardiovascular system during exercise. Impact on physiology of ergogenic aids and various dietary supplements ingested by athletes, presenting an overview of the involvement of these components in fulfilling energy/recovery needs for continual and progressive athletic performance. Two lectures per week. Prerequisite: HMEC-215. Two credits

HMEC-250 (FNS) INTRODUCTION TO FOOD SCIENCE 3:3:0

May 2014
HMEC-260 (FNS) FOOD MICROBIOLOGY  
3:3:0
Introduction to the inherent risks and safety of the food supply and the use of public policy, food safety measures and food technology such as thermal processing and irradiation to reduce those risks. The course will survey microbiological, chemical and environmental hazards, government and industry controls used to insure food safety. The course will emphasize government regulations with respect to adulteration, food safety and misbranding. Three lectures per week. **Prerequisite:** HMEC-105. **Three credits**

HMEC-306 (FNS) VITAMINS AND MINERALS IN HUMAN  
3:3:0
Water and fat-soluble vitamins, macro-minerals and trace minerals in human nutrition. Emphasis includes absorption, metabolism, food sources, dietary recommendations, deficiencies and nutrient interactions. Implications for health promotion and disease prevention. Three lectures per week. **Prerequisite:** HMEC-215. **Three credits**

HMEC-308 (FNS) ADVANCED NUTRITION  
3:3:0
Study of cells and organ systems involved in nutrient metabolism. Detailed understanding of the role of gastrointestinal tract in relation to nutrient metabolism: carbohydrate, fat, protein, vitamins and minerals with emphasis on how metabolic pathways interrelate. Discussion of nutrient functions and role of nutrition on genetic, metabolic and diet-related diseases. Three lectures per week. **Prerequisites:** HMEC-215, CHEM 101 & 102; CHEM-301. **Three credits**

HMEC-310 (FNS) INTRODUCTION TO DIETETICS  
2:2:0
Introduction to the practice of dietetics in medical centers, residential care centers, ambulatory care clinics, and community service agencies. Emphasis on nutrition screening, assessment, planning, intervention, evaluation and documentation. Two lectures per week. **Prerequisites:** HMEC-215, DPD student. **Two credits**

HMEC-317 (FNS) NUTRITION IN PUBLIC HEALTH AND EPIDEMIOLOGY  
3:3:0
Study of the applied and preventive aspects of nutrition as related to public health. Students combine their knowledge of nutrition science with competencies in education, behavioral science, management, and public policy to enhance the nutritional status of individuals and populations. Students conduct research relating diet to health/disease outcomes. Methodological issues related to dietary assessment for clinical/metabolic and epidemiological research. **Prerequisite:** HMEC-215. **Three credits**

HMEC-324 (FNS) COMMUNITY NUTRITION  
3:3:0
The focus is on economic, geographic, social and educational nutrition intervention with emphasis on how to effectively assess specific populations and differences between clinical and community approaches to health. Application of nutrition knowledge in the solution of problems related to health promotion and experiences in community agencies. General understanding of current status and legislation of community nutrition programs, community needs and resources, program planning, funding, and evaluation. **Prerequisite:** HMEC-215. **Three credits**

HMEC-325 (FNS) HUMAN NUTRITION ASSESSMENT  
2:2:0
Methods and techniques of nutritional screening and assessment. Discussions include but not limited to evaluation of dietary intake, anthropometric measurements, biochemical tests and clinical assessment. **Prerequisite:** HMEC-215. **Two credits**
HMEC-330 (FNS) NUTRITION IN AGING  2:2:0
Focuses on topics related to the effects of aging on nutrient metabolism, food and nutrient requirements, nutrition screening and assessment of nutritional status, nutrition intervention and food assistance programs and nutrition related disorders of older adults. Food and nutrition legislation for the elderly--theory and implementation. Nutritional implications of acute and chronic disease states common among the elderly. Discussion on dietary supplements, alcohol abuse, and nutrient-drug interaction. Prerequisite: HMEC-215. Two credits

HMEC-335 (FNS) NUTRITION THROUGH LIFE-CYCLE  3:3:0
Exploration of the impact of nutrition on the progress and outcomes of pregnancy, and on the growth and development of the infant, child adolescent, adult and older adult. Understand nutritional changes throughout the lifecycle including lactation and body composition. The importance of establishing good food habits early in life as a basis for lifetime health and fitness is stressed, and emphasis is placed on the psycho-social aspects of food and eating behavior at every stage. Prerequisite: HMEC-215. Three credits

HMEC-345 (FNS) MATERNAL AND INFANT NUTRITION  3:3:0
Application of principles to maternal, infant, child and adolescent nutrition. Impact of nutrition on growth, development and health of young children. Assessment of nutritional status, changing needs and eating patterns, the link between nutrition, dietary practices, and behavior, and translating current nutrition information into effective nutrition education strategies for children. Emphasis on dietary supplements, alcohol and substance abuse, and nutrient-drug interaction. Prerequisite: HMEC-215. Three credits

HMEC-401 (FNS) FIELD EXPERIENCE IN DIETETIC PRACTICE  3:1:3
Supervised practical experience clinical, foodservice and community settings, including experience in diet assessment, foodservice planning, production and distribution, and work in a nutrition education program at the community level Prior approval of field position, 120 hours of work experience. Written reports required. Prerequisites: FNS major; Junior standing. Three credits

HMEC-407 (FNS) EXPERIMENTAL FOODS  3:2:3
Scientific principles involved in manipulating ingredients for comparative methods in food preparation, and the judging of the product using various sensory methods. Two lectures and three laboratory periods per week. Prerequisites: HMEC-260 or BIOL-221. Three credits.

HMEC-409 (FNS) QUANTITY FOOD SYSTEMS MANAGEMENT  3:3:3
The organization, administration and application of managerial techniques in food service systems; production, distribution, selection and storage of food commodities; specification writing; personal training; job analysis; computer applications in quantity food preparation. Three lectures and three laboratory periods per week. Three credits.

HMEC-421 (FNS) INSTITUTIONAL FOOD SERVICE MANAGEMENT  3:2:3
Basic principles and theories of food service systems; menu planning, development, standardization, adjustment; costing of quantity recipes; food procurement and quantity food production; reviews of food systems; computer applications in food service; environmental issues, HACCP; quality reviews; complying with USDA and JCAHO standards for institutional food service. Two lectures and three laboratory periods per week. Three credits.
HMEC-425 (FNS) MEDICAL NUTRITION THERAPY I
Nutrition assessment and support. Pathology, management, and nutrition therapy for disorders of the gastrointestinal, immune, and respiratory systems. Emphasis on nutrition screening, assessment, diagnosis, intervention and evaluation of patients/clients with hypermetabolic and gastrointestinal disorders; diseases of the liver, gallbladder and pancreas, cancer and HIV/AIDS. Prerequisites: HMEC-215, HMEC-325, HMEC-335. Three credits

HMEC-426 (FNS) MEDICAL NUTRITION THERAPY II
Nutrition assessment and support. Pathology, management, and nutrition therapy for disorders of the cardiovascular, endocrine, urinary, and neuromuscular and skeletal systems. Nutrition intervention for inborn errors of metabolism, diabetes, eating disorders and obesity. The importance of nutrition screening, assessment, planning, intervention and evaluation of patients/clients with disorders of the cardiovascular, endocrine, urinary, and neuromuscular and skeletal systems are stressed. Prerequisite: HMEC-425. Three credits

HMEC-427 (FNS) NUTRITION EDUCATION AND COUNSELING
Application of theories and principles of learning, behavior change, and instructional methods to nutrition education. Inter-disciplinary team approach to individual and group client-centered nutrition counseling which includes assisting and advising clients on dietary information. Skills and techniques based on nutrition counseling theories that are most useful to registered dietitians in enhancing quality of life and planned nutrition intervention. Prerequisite: HMEC-215; Senior standing. Two credits

HMEC-428 (FNS) RESEARCH METHODS
Discussion and experience with selected methods and techniques in nutrition research. Laboratory experience in chemical and biochemical methods of analysis of nutritional status and biochemical parameters. One lecture and one laboratory period per week. Prerequisites: NTRS-321 or MGMT-208. Two credits

HMEC-430 (FNS) OBESITY: THEORY AND PRACTICAL APPLICATIONS
Discussion of the etiology, physiological, pathophysiological, and psychological impacts, and multidisciplinary assessment and treatment modalities of obesity for persons throughout the life cycle. Prerequisite: HMEC-215. Three credits

HMEC-450 (HE) SENIOR SEMINAR
Critical reading, evaluating, and reporting from pertinent current nutrition journals and other publications. Written report and oral presentation required. Prerequisite: Senior standing in Human Ecology programs. One credit

HMEC-454 (FNS) NUTRITION AND IMMUNE SYSTEM
The course focuses on the roles of specific nutrients in maintaining the immune response and host protection against infection. Influence of various factors, such as exercise and ageing, on the interaction between nutrition and immune function. The immunological effects of changes throughout the life cycle, and public health policy implications. Prerequisite: HMEC-215. Two credits

HMEC-455 (FNS) NUTRITIONAL BIOCHEMISTRY
This course focuses on the fundamental understanding of biochemical, physiological, cellular, and molecular processes in nutrition as they apply to experimentation with human or animal subjects. Biochemistry and nutrition are inextricably linked, from the structure of the molecules in food to the processes by which nutrients are metabolized and digested. Prerequisites: HMEC-308 and CHEM-301. Three credits

May 2014
HMEC-460 (FNS) TOPICS IN GLOBAL NUTRITION 2:2:0
Global Nutrition Issues will broaden students’ understanding of nutrition. The course includes a study of the history of food and hunger, and the global nature of our food systems. Food and culture, as well as the impact of our food decisions on the environment will be examined. Agricultural production, world populations relative to food supply, hunger, biotechnology, and the safety of our food supply will be discussed. Three credits

HMEC-475 (FNS) NUTRIGENOMICS 3:2:1
Interactions between nutrients and gene expression, including heredity, gene regulation, metabolic disease, developmental abnormalities, and molecular techniques. Focuses on the cellular and molecular basis of nutrition-related diseases and nutrient-gene interactions. Two hours of lecture and one laboratory period per week. Prerequisites: HMEC-308 and HMEC-455. Three credits