NUTR 202 Fundamentals of Human Nutrition  
Credits 3. 3 Lecture Hours.  
(BIOL 1322, HECO 1322) Fundamentals of Human Nutrition. Principles of nutrition with application to the physiologic needs of individuals; food sources and selection of an adequate diet; formulation of Recommended Dietary Allowances; nutritional surveillance; for non-nutrition majors only.

NUTR 203 Scientific Principles of Human Nutrition  
Credits 3. 3 Lecture Hours.  
Chemistry and physiology of proteins, carbohydrates, lipids, vitamins and minerals; their ingestion, digestion, absorption, transport and metabolism.  
Prerequisite: CHEM 101 and CHEM 111. Majors only.

NUTR 210/FSTC 210 Horizons in Nutrition and Food Science  
Credits 2. 2 Lecture Hours.  
Introduction to nutrition and food science career opportunities through presentations by nutrition and food science researchers and industry professionals; addresses issues of professionalism including portfolio development, teamwork, and critical thinking skills.  

NUTR 211 Scientific Principles of Foods  
Credits 4. 3 Lecture Hours. 3 Lab Hours.  
Basic principles underlying selection, preparation and preservation of food in relation to quality standards, acceptability and aesthetics. Introduction to composition, nutritive value, chemical and physical properties of foods; introduction to experimental study of foods.  
Prerequisites: CHEM 101, CHEM 111; NUTR 202 or NUTR 203; sophomore classification or above.

NUTR 222 Nutrition for Health and Health Care  
Credits 3. 3 Lecture Hours.  
Analysis of nutrition with emphasis on providing a basic understanding of nutrition and its role in disease prevention and treatment.

NUTR 285 Directed Studies  
Credits 0 to 4. 0 to 4 Other Hours.  
Directed study of selected problems in the area of nutrition.  
Prerequisites: Approval of instructor; 2.0 GPR in major and overall.

NUTR 289 Special Topics in...  
Credits 1 to 4. 1 to 4 Lecture Hours.  
Selected topics in an identified area of nutrition. May be repeated for credit.  
Prerequisite: Approval of department head.

NUTR 291 Research  
Credits 0 to 4. 0 to 4 Other Hours.  
Research conducted under the direction of faculty member in nutrition. May be repeated 2 times for credit.  
Prerequisites: Freshman or sophomore classification and approval of department head.

NUTR 300/FSTC 300 Religious and Ethnic Foods  
Credits 3. 3 Lecture Hours.  
Understanding religious and ethnic foods with application to product development, production, and nutritional practices; emphasis on different food rules and priorities with attention given to different religious and ethnic groups within the US and around the world.  
Prerequisites: Junior or senior classification or approval of instructor; basic knowledge of food science and nutrition helpful.  
Cross Listing: FSTC 300/NUTR 300.

NUTR 301 Nutrition Through Life  
Credits 3. 3 Lecture Hours.  
Analysis of nutrition with emphasis on human biological needs through stages of the life cycle; biochemical, physiological and anthropometric aspects of nutrition.  
Prerequisites: NUTR 203; junior classification or approval of department head.

NUTR 303/ANSC 303 Principles of Animal Nutrition  
Credits 3. 3 Lecture Hours.  
Scientific approach to nutritional roles of water, carbohydrates, proteins, lipids, minerals, vitamins, and other dietary components; emphasis on the comparative aspects of gastrointestinal tracts and on digestion, absorption, and metabolism of nutrients.  
Prerequisites: ANSC 107 and ANSC 108; CHEM 222 or CHEM 227 or equivalent.  
Cross Listing: ANSC 303/NUTR 303.

NUTR 304 Food Service Systems Management  
Credits 4. 3 Lecture Hours. 3 Lab Hours.  
Principles of food service management used in selecting, storing, preparing and serving food in quantity; emphasis on menu planning, quality control, purchasing, equipment and layout/design; application of basic food service systems management principles, including financial planning and personnel issues.  
Prerequisites: NUTR 203 and NUTR 211, junior or senior classification.

NUTR 320 Understanding Obesity: A Social and Scientific Challenge  
Credits 3. 3 Lecture Hours.  
Perspectives of obesity in food science, nutrition, health and psychology; study of obesity factors in relation to genetics, exercise physiology and sociology with emphasis on food and nutrition.  
Prerequisites: Junior or senior classification or approval of instructor.

NUTR 365 Nutritional Physiology of Vitamins and Minerals  
Credits 3. 3 Lecture Hours.  
Fundamental nutritional significance of fat soluble and water soluble vitamins and minerals to human metabolism, cell biology and physiology; micro-nutrient groups as per metabolic function or biochemical and physiological actions; important dietary sources, absorption, storage, metabolism, (bio)chemistry, deficiency and toxicity of individual nutrients in this context and basis of DRIs.  
Prerequisites: NUTR 203 and NUTR 301; junior or senior classification.

NUTR 404 Nutrition Assessment and Planning  
Credits 4. 3 Lecture Hours. 3 Lab Hours.  
Methods of determining the nutritional status of individuals; dietary techniques; planning nutritional care including diet modification and/or nutrition support; nutrition counseling.  
Prerequisites: NUTR 203, NUTR 211 and NUTR 301; junior classification or approval of department head.

NUTR 405 Nutritional Treatment of Disease  
Credits 3. 3 Lecture Hours.  
Nutritional intervention in pathological conditions, based on biochemical, physiological and psychological effects of disease state; current research in clinical nutrition.  
Prerequisites: NUTR 203, NUTR 301; BIOL 319; BICH 410 or concurrent enrollment; senior classification or approval of instructor.
NUTR 410/FSTC 410 Nutritional Pharmacometrics of Food Compounds
Credits 3. 3 Lecture Hours.
Nutritional pharmacokinetics and pharmacodynamics of food compounds; specific examples of toxicological and pharmacological effects of food compounds.
Prerequisites: NUTR 202 or NUTR 203 or FSTC 201 or CHEM 222 or CHEM 227 or approval of instructor; junior or senior classification.
Cross Listing: FSTC 410/NUTR 410.

NUTR 420 Supervised Research in Mediterranean Nutrition and Food Processing in Italy
Credits 3. 3 Other Hours.
Exploration of principles of Mediterranean diet, European nutrition regulatory aspects, wine-making and food processing in Italy.
Prerequisite: FSTC 201, NUTR 202 or NUTR 203; must be 18 years of age; class and tours taught in English; priority given to majors in FSTC or NUTR.
Cross Listing: FSTC 420.

NUTR 422 Food Processing for Sustainable Nutrition in Brazil
Credits 3. 3 Other Hours.
Sustainable nutrition and food processing in Brazil; hands-on learning at the Federal University of Vicosa, the Amazon Biotechnology Center, food processing plants and other research centers in the Amazon, central Brazil and Rio De Janeiro.
Prerequisites: FSTC 201, NUTR 202, or NUTR 203; must be 18 years of age; class and tours taught in English; priority given to majors in FSTC or NUTR.
Cross Listing: FSTC 422.

NUTR 430 Community Nutrition
Credits 3. 3 Lecture Hours.
Principles of assessing nutrition problems in populations and planning nutrition programs to promote health in communities including nutrition education and food and nutrition policy; introduction to food and nutrition assistance programs.
Prerequisites: NUTR 203 and NUTR 301; junior or senior classification.

NUTR 440/FSTC 440 Therapeutic Microbiology: Probiotics and Related Strategies
Credits 3. 3 Lecture Hours.
Topics relevant to alimentary (gastrointestinal) microbiology including (i) the "normal" intestinal microbiota; (ii) probiotic and prebiotic nutritional supplements; (iii) recombinant pharmabiotics; (iv) gut-associated lymphoid tissue and mucosal immunity; (v) foodborne gastrointestinal pathogens; and (vi) fermented products as functional foods.
Prerequisites: Undergraduate survey course in microbiology or approval of instructor; junior or senior classification.
Cross Listing: FSTC 440/NUTR 440.

NUTR 450 Nutrition and Metabolism of Minerals
Credits 3. 3 Lecture Hours.
The role of minerals in living systems and the exploration of their multitude of functions; chemical properties of minerals and how that relates to function in cells and tissues; consequences of mineral deficiencies based on known functions; insight into experimental approaches used to assess minerals in a living environment.
Prerequisite: NUTR 203, BICH 303 or BICH 410 or approval of instructor.

NUTR 469/FSTC 469 Experimental Nutrition and Food Science Laboratory
Credits 4. 1 Lecture Hour. 6 Lab Hours.
Investigation of nutritional intervention in animal models of metabolic and psychological disorders (e.g. obesity and depression); investigational approaches: behavioral analyses; RNA and protein analyses; reverse transcription PCR.
Prerequisites: CHEM 227; CHEM 237; junior or senior classification or approval of instructor.
Cross Listing: FSTC 469/NUTR 469.

NUTR 470 Nutrition and Physiological Chemistry
Credits 3. 3 Lecture Hours.
Fundamentals of physiology, biochemistry and nutrition and their relationship to the organismic and cellular metabolism of animals; biochemical basis of hormonal action.
Prerequisites: NUTR 203; NUTR 301; BICH 410; senior classification or approval of department head.

NUTR 471/FSTC 471 Critical Evaluation of Nutrition and Food Science Literature: Evidence Based Reviews
Credits 3. 3 Lecture Hours.
Evaluation of scientific literature, research methods within the literature, and the quality of scientific studies to produce an evidence-based review in areas specific to nutrition and food science.
Prerequisites: NUTR 202 or NUTR 203 and STAT 302; junior or senior classification; knowledge of technical writing helpful.
Cross Listing: FSTC 471/NUTR 471.

NUTR 481 Seminar
Credit 1. 1 Lecture Hour.
Review of current literature and research in nutrition; oral presentations and critical discussions.
Prerequisite: NUTR 203 or NUTR 301; senior classification or approval of department head.

NUTR 485 Directed Studies
Credits 0 to 4. 0 to 4 Other Hours.
Directed study on selected problems in the area of nutrition.
Prerequisites: Junior or senior classification in scientific nutrition or allied area; approval of instructor; 2.0 GPR in major and overall.

NUTR 489 Special Topics in...
Credits 1 to 4. 0 to 4 Lecture Hours. 0 to 4 Lab Hours.
Selected topics in an identified area of nutrition. May be repeated for credit.
Prerequisite: Junior or senior classification.

NUTR 491 Research
Credits 0 to 4. 0 to 4 Other Hours.
Research conducted under the direction of faculty member in nutrition. May be repeated 3 times for credit. Registration in multiple sections of this course are possible within a given semester provided that the per semester credit hour limit is not exceeded.