**COURSE OUTLINE**

HUN 6321 Proteins and Amino Acids in Nutrition

**Catalog Description:** HUN 6321 Proteins and Amino Acids in Nutrition (4). Prereq: HUN 3221 plus BCH 3025 or equivalent. Nutritional aspects of proteins and amino acids, with emphasis on metabolism, nitrogen and amino acid requirements, assessment of protein quality, effects of deficiencies, toxicities and physiological stresses, and techniques for improving protein nutrure.

**Objectives:** To provide the student with a comprehensive comparative analysis of the role of proteins and amino acids in the nutrition of humans and animals; to interpret, analyze, criticize, and apply information derived from current research on protein and amino acid nutrition.

**Course Format:** Four 50-minute lectures per week, which include discussions.

**Frequency:** Fall semester of odd numbered years.

**Instructor:** Harry S. Sitren, Ph.D.
Room 441 Food Science and Human Nutrition Bldg., Newell Drive
P. O. Box 110370
Phone: 392-1991 x216
Office hours: M, W, F 3:00-4:00 P.M. (no appointment needed)

**Contents of Course:** Biochemical and physiological review of protein digestion and absorption, thermogenic response to protein intake, regulation of nitrogen detoxification pathways, protein turnover, protein-energy relationships, protein and essential amino acid requirements, protein reserves, protein and amino acid imbalances, deficiencies and toxicities, inborn errors of metabolism, evaluation of protein quality, nutritive value of plant and animal proteins, protein intake recommendations for maintenance, growth, pregnancy, and lactation, protein and amino acids and cognitive function, protein and amino acids and physical performance, and protein nutrition in injury and disease.

**References:** No textbook is available. Lecture material will include journal references.

**Grading System:** Exam I 20%
Exam II 20%
Final Exam 30%
Short quizzes 10%
Homework assignments 20%
Quizzes are given once/week at the beginning of the period and cover the lecture material from the previous week.

The homework assignments (n=10-12) typically consist of first seeking out specific journal articles and then writing a report (usually 2-4 pp.) that includes, for example, the rationale for the research, major findings, comparisons and contrasts with the findings of other researchers, and finally your own interpretation.

Final Grade: A=90 & up, B+=87-89, B=80-86, C+=77-79, C=70-76, D+=67-69, D=60-66, E=59 & down