

## COLLEGE OF HUMANITIES AND SOCIAL SCIENCES

### FCS 478: ADVANCED NUTRITION

**CREDIT HOURS: 3**

**SEMESTER: Fall, 2007**

**Instructor:** Claudia Sealey-Potts Ph.D., R.D., L.D.,  
Assistant Professor, Director of Sam Houston Dietetic Internship Program,  
and Graduate Advisor  
Office: Academic Building II, Room 224,  
Phone: 936-294-1250  
Fax: 936-294-4204  
Email: [clapotts@shsu.edu](mailto:clapotts@shsu.edu)  
*Office hours:* Mondays, Wednesdays and Fridays: 11-2 and by  
appointment

**Class Meets:** Day/Time: Mon, Wed, and Fri/ 9-9:50 am; Room: 201

**Textbook(s):** Gropper, Sareen S, Smith, Jack L, and Groff, James L Advanced Nutrition and Human Metabolism Thomson/Wadsworth 4<sup>th</sup> Edition, 2005

#### **Course Description:**

This course covers concepts of human metabolism in normal nutrition with relation to the chemistry and physiology of the human body; analysis of methods used in assessing human nutrition status; evaluation of current nutritional problems.

#### **Attendance Policy:**

Students are expected to attend class sessions. Only University-recognized excuses will be accepted. Roll will be taken each class.

**Student Syllabus Guidelines:** You may find online a more detailed description of the following policies. These guidelines will also provide you with a link to the specific university policy or procedure: <http://www.shsu.edu/syllabus/>

**Academic Dishonesty:** Students are expected to maintain honesty and integrity in the academic experiences both in and out of the classroom. *See Student Syllabus Guidelines.*

**Classroom Rules of Conduct:** Students are expected to assist in maintaining a classroom environment that is conducive to learning. Students are to treat faculty and students with respect. Students are to turn off all cell phones while in the classroom. Under no circumstances are cell phones or any electronic devices to be used or seen during times of examination. Failure to do so will result in a 50% deduction of overall grades. Students may tape record lectures provided they do not disturb other students in the process.

**Student Absences on Religious Holy Days:** Students are allowed to miss class and other required activities, including examinations, for the observance of a religious holy day,

including travel for that purpose. Students remain responsible for all work. *See Student Syllabus Guidelines.*

**Students with Disabilities Policy:** It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely by reason of their disability, from participation in any academic program of the university. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. Students with disabilities that might affect their academic performance should visit with the Office of Services for Students with Disabilities located in the Counseling Center. *See Student Syllabus Guidelines.*

**Visitors in the Classroom:** Only registered students may attend class. Exceptions can be made on a case-by-case basis by the professor. In all cases, visitors must not present a disruption to the class by their attendance. Students wishing to audit a class must apply to do so through the Registrar's Office.

### **Course Objectives:**

This course is intended to address human metabolism and nutrition concepts. Upon completion of the course the student should have acquired the knowledge to:

1. Gain factual knowledge on classification, terminology and methods of human metabolism at the components of nutrients within the cell.
2. Discuss the role of cellular proteins in relation to nutrient metabolism.
3. Understand the mechanism of the digestive system in yielding nutrients.
4. Identify the structure and functional features of energy-yielding nutrients.
5. Identify the structure and functional features of some vitamins and minerals.
6. Discuss the physiological and biochemical basis for energy yielding nutrients.
7. Understand the metabolism, needs and sources of vitamins and minerals.
8. Comprehend metabolic pathways of macronutrients.
9. Integrate knowledge of digestion with biological and physiological concepts.
10. Complete a research project in a nutrition or dietetics-related topic of current interest.
11. Learn fundamental principles of human nutrition and metabolism

### **Projects/Assignments**

#### **COURSE REQUIREMENTS FOR GRADUATE STUDENTS:**

In addition to the course requirements, graduate students will write a paper on a topic related to this course. A comprehensive review of literature not less than 20-25 pages based on not less than 25-35 references from referred journals should be included. The paper should be written in a scientific style similar to the Journal of the American Dietetic Association. This paper will be presented to the class using appropriate audio-visual aids.

**Due date: Last day of class.**

- Select one topic of interest. Sign up on the master list that will be passed around during class sessions.
- Use all the library resources to find articles on the topic you selected. Articles must be within the period **January 2002 to present** and must be selected from scientific journals. Do not use popular magazines such as Readers Digest, Runners World, Prevention, and Time. As you search the databases it is a good idea to note more than one article because the journal may be missing or your library may not carry them.
- Read the article. Write in your own words, summary of the selected articles. Do not copy the abstract published with the article. Be sure to cite/reference all articles in a scientific manner. An example of a scientific format is from the ADA's Journal Style: **Satter EM. Internal regulation and the evolution of normal growth as the basis for the prevention of obesity in children. *J Am Diet Assoc.* 1996;96:860-864.**

Citations and summaries must be typed; must be neat and legible. If your printer does not italicize, underline the journal title.

**Grading Policy:**

Three one-hour exams	300 points	50% of the grade
One research report with formal presentation	100 points	15% of the grade
Participation Grade	50 points	5% of grade
Final examination	200 points	30% of the grade

- A = 90 - 100
- B = 80 - 89.95
- C = 70 - 79.95
- D = 60 - 69.95
- F = Below 60

**Examinations:**

Examinations will be given on dates announced in class schedule. Examinations will encompass any lecture material or reading assignments. Questions may include multiple-choice, true/false and short answer (up to one paragraph). If you have a university-recognized excuse for missing an examination and notify the instructor prior to the examination, missed examinations may be made up at the convenience of the instructor.

## Lecture Schedule and Topics

August 20: Classes Begin/ Syllabus review  
Introduction/Overview  
Components of typical cell  
Cellular proteins

**September 3: Labor Day Holiday**

**September 5th: Departmental Meeting for all FCS students @ 3:30pm**

Overview of the Digestive Tract  
Coordination and regulation of the digestive process

**September 17 Exam 1**

Structural and functional features of Carbohydrates  
Digestion, Absorption, Transportation and Distribution of Carbohydrates  
Integrated metabolism of Carbohydrate in tissues  
Structural and functional features of Lipids

**October 15: Exam 2**

Digestion, Absorption, Transportation and Distribution of Lipids  
Integrated metabolism of Lipid in tissues  
Structural and functional features of Proteins  
Digestion, Absorption, Transportation and Distribution of Proteins

**NOVEMBER 21-23: THANKSGIVING HOLIDAYS**

**November 19: Exam 3**

Amino Acid metabolism  
Sources, digestion, absorption, and transport of selected vitamins  
Sources, digestion, absorption, and transport selected minerals  
Integrated metabolism of vitamins and minerals

**December 6: Study Day**

**December 8-13: Final Exam and Research Project for Graduate Students Due**