

ADVANCED NUTRITION I: Macronutrients
11:709:400

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Prerequisites: 01:694:301 or 11:115:301 or 11:115:403, 404 or 01:694:407-408; all prerequisite courses must be completed with a grade of C or better; This course is acceptable as an elective for Biological Science (119), Biochemistry (115) and Animal Biotechnology (126) and is used to calculate the Science GPA for Medical School applications.

Description: Comprehensive study of the regulation of carbohydrate, lipid, and protein metabolism at cellular and organismal levels; integration of metabolism by hormones and diet in physiological and pathological states

Learning goals: Through lectures, readings and class discussions, students will gain:

1. an understanding of the physiological regulation of macronutrient metabolism in healthy and diseased states;
2. an understanding of the dietary requirements, absorption, transport, metabolism and functions of carbohydrates, lipids, and proteins;
3. knowledge of the consequences of excessive or deficient intake of macronutrients.

Learning outcomes will be assessed through 4 examinations, including a non-cumulative final.

Exam format (tentative and subject to change): Exams will consist of multiple choice/matching style questions, short answer questions, and essay-style questions.

Please note: There will be no additional last-minute extra credit assignments at the end of the semester. Please pay attention to your exam performance and avail yourself of the many opportunities to get help in understanding the material through attending all synchronous lecture and review sessions held by the Instructors and Teaching Assistant, reading the textbook chapters and any posted material, reviewing sample exams and answering available study questions, attending Open Office Hours or making one-on-one appointments with the Instructors and/or the Teaching Assistant for extra help.

NOTES ABOUT MISSED EXAMS AND ACCOMODATIONS: Make-up exams may be granted under exceptional circumstances. It is the student's responsibility to contact the instructor prior to or within 24 hours of the missed exam to request and arrange a make-up exam date and time. Instructor approval is required to take a make-up exam. Requests related to vacations or social gatherings will not be granted approval. Leaning accommodations must be communicated to and confirmed by each instructor, prior to exams.

POLICY ON THE USE OF ELECTRONIC DEVICES IN THE CLASSROOM (WHEN IN PERSON): Other than for note taking, the use of electronic equipment is prohibited during class. During exams, all electronic devices and peripherals, including but not limited to phones, watches and ear buds, should be taken off, turned off and placed out of access from your person.

Textbook recommendation (not required)

Biochemical, Physiological and Molecular Biological Aspects of Human Nutrition, M.H. Stipanuk, M.A. Caudill, eds., Elsevier-Saunders, Third Edition 2013

Copies of the text are available in the Chang Library, Foran Hall.

Additional readings relevant to each topic will be listed at the end of corresponding lectures. These readings are required for graduate students and highly recommended for undergraduates.

Note: An additional course, 709:402 Advanced Nutrition I: Readings, is offered as a 1 credit option to this course. Two sections are scheduled: Monday 10.55-12.15 and 2.15-3.35pm both in Hickman 127. The readings course will review problems and study questions based on the material covered in this class each week. The additional course is intended for those students who feel that their background and understanding of biochemistry limits their achievement in this course. Problems and questions discussed in 402 will be available for self-study for those students not taking 402.