Advanced Nutrition and Human Metabolism

FN 457 Fall 2020

INSTRUCTOR

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Office Hours: by appointment on Zoom

COURSE DESCRIPTION

The course provides an integrated study of normal nutrient function and utilization in humans. Although the course focus is normal metabolic functioning, for the purpose of contrast we will discuss the metabolic characteristics of conditions relevant to dietetics, including (but not limited to) diabetes, hyperlipidemia, hypertension and the effect of exercise training. Students will draw on foundation knowledge acquired in or refer to resources from the following prerequisite courses: Chem 260 (biochem) and Bio 285 (physiology).

STUDENT OBJECTIVES

1. Integrate physiology, biochemistry and nutrition in the context of normal human metabolism.
2. Describe the metabolic basis for contemporary health issues relevant to the dietetics professional.
3. Recognize clinical assessments of metabolic functioning.
4. Discuss the molecular basis for individual response to intervention (diet, physical activity, medication).
5. Employ critical thinking strategies in applied problem-solving exercises and discussions.
    - Objectives 1-5 will be achieved by mastery of lecture and reading materials
        - Achievement of these objectives will be reflected in exam performance.
6. Develop scientific and professional writing skills.
7. Develop skills to research, review, and evaluate scientific literature.
    - Objectives 6-7 will be achieved in the abstract writing assignments and exams.
        - Assessment of skill development – see grading rubric for writing assignments.

LECTURE LOCATION AND TIME **Zoom virtual classroom, M W 14:00–15:15**

REQUIRED TEXT (available at text rental) ADVANCED NUTRITION & HUMAN METABOLISM 7th Edition, Gropper and Smith. 2018; Wadsworth

Course Evaluation	
2 Abstracts (25 pts each)	50
1 Blog post	25
3 Exams (100 pts each)	300
Various in-class writing exercises	
Total	**375+**

Grading Scale

A	93-100%	C+	77-79.9%
A-	90-92.9	C	73-76.9
B+	87-89.9	C-	70-72.9
B	83-86.9	D+	67-69.9
B-	80-82.9	D	60-66.9
		F	below 60%

STUDENT RESPONSIBILITIES

Attendance

Students should plan to attend all class sessions and are responsible for all information presented in class. Notify the instructor in person, by telephone or email if an absence is anticipated. It is the student's responsibility to obtain any lecture notes or other information from the missed class session by viewing the recorded lecture posted in Canvas and from other students, not from the instructor. Only after such material is obtained can an appointment be made with the instructor to discuss and clarify the information presented in the missed class session.

Exams

Exam questions can be drawn from lecture, textbook and journal article material. A student must notify the instructor, prior to a test, if he/she will be absent. Without prior notification, exams cannot be made up. Should you feel that an exam has been unfairly graded, you will have one week from the day exams are handed back to request a regrade of the exam. After the one week period, no test will be accepted for regrading.

Reading Assignments
Relevant chapters are listed in this syllabus. Specific page assignments will be given in lecture and supplemental print material will be distributed throughout the semester. Students will be given ample notice of the expectations to participate in class discussions surrounding a reading assignment.

Written Assignments
Written work must be typed or computer-printed, double-spaced with no more than 1" margins, and written in complete sentences with proper punctuation, grammar and spelling. Writing style will be formal with the aim of developing a professional writing style. Some characteristics of the biomedical style of scientific writing will be employed, including proper in-line citations and bibliography. Promptness is expected for all assignments due to the instructor or writing partner. Late assignments which have not been discussed with the instructor prior to the deadline will be docked 1 full letter grade for each day the assignment is late.

Please see me if you have any questions or concerns about meeting the requirements of this course as stated in the syllabus.

LEARNING ENVIRONMENT
Rights and Responsibilities
UWSP values a safe, honest, respectful, and inviting learning environment. The *Rights and Responsibilities* document explains how instructors and students are expected to maintain this environment. For more information go to: http://www.uwsp.edu/stuaffairs/Pages/rightsandresponsibilities.aspx

Academic Integrity
Academic integrity is central to the mission of higher education and dishonesty is not tolerated. Please refer to the UWSP "Student Academic Standards and Disciplinary Procedures" section of *the Rights and Responsibilities* document, Chapter 14.
http://www.uwsp.edu/stuaffairs/Documents/RightsRespons/SRR-2010/rightsChap14.pdf

Special Accommodations
If you require classroom and/or exam accommodations, please register with the Disability Services Office and then contact the instructor at the beginning of the course.

The Commission on Accreditation for Dietetics Education (CADE) is the American Dietetic Association's accrediting agency for education programs that are preparing students for careers as registered dietitians. CADE serves and protects the public by assuring the quality and continued improvement of nutrition and dietetics education programs. The UWSP dietetics curriculum is planned to provide learning activities to attain all the CADE Foundation Knowledge and Learning Outcomes required for graduates to be qualified to enter a Dietetic Internship for eligibility for the RD examination.

FN457 addresses the following aspects of CADE Knowledge Requirements and Learning Outcomes. These build on previous coursework and provide the basis for higher level courses in the curriculum and future professional development.

Curricular Area	Knowledge Requirement	Learning Outcome	Outcome Assessment
2. Professional Practice Expectations: beliefs, values, attitudes and behaviors for the professional dietitian level of practice	KR 2.1 Develop communication skills sufficient for entry into pre-professional practice.	KR 2.1.a Effectively write and document sources, and use current information technologies when communicating with individuals, groups and the public.	Exams, abstracts
5. Support Knowledge: knowledge underlying the requirements 1-4.	SK 5.2. The physical and biological science foundation of the dietetics profession must be evident.	Course content includes biochemistry, physiology, genetics, statistics, and nutrient metabolism.	Exams
Evaluation criteria (grading rubric) Exam questions are assessed on accuracy, grammatical correctness, relevance to question, concision, logical flow of ideas, and professional level language. Abstracts and blog are similarly graded with the addition of original expression (i.e., absence of plagiarism) and adherence to author guidelines (e.g., word limit, structural requirements).			

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Tentative Course Outline* – Fall 2020

Week	Topic of discussion	Related readings
Week 1 Sept 2	Overview of semester Scientific writing in the field of nutrition – submit writing sample	Documents posted in Canvas
Week 2 Sept 9	Scientific methods, understanding research findings *Abstract 1: draft due to writing partner (Sept 9)*	
Week 3 Sept 14 & 16	Cellular biology: signaling, transporters, receptors, nuclear receptors, DNA Tx factors, etc… Nutrigenomics	Ch. 1
Week 4 Sept 21 & 23	Digestion & the GI tract *Abstract 1: final, revised version due to instructor (Sept 21)*	Ch. 2
Week 5 Sept 28 & 30	*Carbohydrates*	Ch. 3 & 4
Week 6 Oct 5 & 7	***Exam I (Oct 5)*** Diabetes	
Week 7 Oct 12 & 14	Lipids *Abstract 2: draft due to writing partner (Oct 12)*	Ch. 5
Week 8 Oct 19 & 21	CVD Protein *Abstract 2: final, revised version due to instructor (Oct 21)*	Ch. 6
Week 9 Oct 26 & 28	Protein, Iron	
Week 10 Nov 2 & 4	Iron *Blog post: draft due to writing partner (Nov 4)*	
Week 11 Nov 9 & 11	***Exam II (Nov 9)*** Fluid balance & HTN	Ch. 10 & 11
Week 14 Nov 16 & 18	Bone: calcium, magnesium, vitamins K & D	Ch. 11 & 12
Week 12 Nov 23	Bone (cont.) *Blog post: final, revised version due to instructor (Nov 23)* ***Thanksgiving!!!***	
Week 15 Nov 30 & Dec 2	B vitamins: inter-relationship and interdependence	Ch. 9
Week 16 Dec 7 & 9	Vitamin A & carotenoids	Ch. 10
	Exam III Monday, December 14; 14:45AM - 16:45PM	
** The instructor reserves the right to alter the course schedule and assignments as needed.*		