

Nutrition for Fitness and Athletic Performance

FN 450/650 – Fall 2016

INSTRUCTOR

Thomas Wetter, PhD
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COURSE DESCRIPTION

The course will apply fundamental concepts of nutrition and exercise physiology to provide students with a strong understanding of when the health and performance effects of diet and exercise intersect and when they do not. Two contexts will be discussed throughout the semester: the athlete interested in maximizing performance and the general consumer interested in overall fitness for health and wellbeing. Understanding the difference between the two is critical for making choices surrounding the many nutrition products marketed to active people. Understanding the similarities between the two is essential for making healthful food choices that also support the specific nutrient needs of competitive athletes. This understanding is useful for any health promotion professional whose audience is interested in diet and exercise for health (dietitians, health educators, health practitioners, science teachers) or athletic performance (coaches, trainers).

Pre-requisites for the course are FN 253 and HP/W 312. Students are expected to apply basic principles of nutrition and exercise physiology. Although many issues will be reviewed in the reading, the course will be taught assuming mastery of knowledge from pre-requisite courses. Students are expected to take ownership of their professional development in that it is each individual's responsibility to seek out and access resources (including instructors) on their own should they need to raise their knowledge and skills to perform well in this senior level course.

PRIMARY STUDENT OBJECTIVES

1. Gain an understanding of the interaction between diet and physical activity in determining overall health.
2. Gain an understanding of how exercise influences nutrient needs and how diet influences the body's ability to perform exercise.
3. Become comfortable differentiating between health and performance goals and understand when dietary strategies can meet both and when one goal should take precedence over another. To that end, students will apply critical thinking, creative, and problem solving skills to make dietary recommendations on sample athlete diets among other activities.
4. Explore how age, gender, ethnicity, genetics, type of activity, and certain health conditions influence nutrient needs among active individuals. Integrate this understanding into formulating dietary recommendations for active individuals.
5. Develop professional research and communication skills
6. Gain expertise in reading, understanding and applying the primary research literature in nutrition and exercise physiology.
7. Develop creative and evidence-based problem solving skills.
 - o Objectives 1-7 will be assessed by exams, assignments, performance in small group problem solving activities, and the projects and presentations.
8. Graduate students will further their professional oral communication and research, counseling, or teaching skills with the following additional projects.
 - o Create a research proposal, client case study, or lecture on a topic designed to address predetermined learning objectives related to sports nutrition
 - o Present proposal, case study, or lecture to the class
 - Objective 8 will be assessed by the instructor and student evaluations.

LECTURE LOCATION AND TIME CPS 208, M W 11:30–12:45

TEXT [Nutrition for Sport and Exercise](#), 2nd ed. M. Dunford, and JA. Doyle (2012)
Available at text rental; Additional Articles and links will be posted in D2L or made available in the notes.

This is a reading and discussion intensive course. Students are expected to follow the course schedule and read the appropriate chapters and articles ahead of class discussions.

ATTENDANCE

Attendance in scheduled class sessions will count 10% towards the overall course grade. Students may miss up to two class sessions without penalty. Afterward, missed class sessions will negatively affect one's attendance grade (see box). All absences will be judged equally, whether the student considers them "excused" or not. Extenuating circumstances will be considered on a case-by-case basis. It is the student's responsibility to obtain any notes or assignments or other information from the missed class session from other students, not from the instructor. Only after such material is obtained from other students can an appointment be made with the instructor to discuss and clarify the information/assignment from the missed class session.

Number of absences	Attendance points earned
0-2	10
3	8
4	6
5	4
>5	0

PARTICIPATION

This is a pre-professional course and engaged participation is expected. Engaged participation in class discussion is essential for content mastery and the development of critical thinking and application skills. Each student's participation will be noted and factored into the overall course grade (worth 5%). Individual character traits such as shyness are not valid reasons for being disengaged from your intellectual development. College is the time to strive to overcome character traits that may interfere with professional excellence. Shyness interferes with counseling clients and presenting to groups, and thus interferes with many duties central to health promotion. If you feel you need guidance for participating in class discussions, please see the instructor EARLY in the semester regarding your concerns and questions. In addition, the counseling center can provide resources for developing interpersonal communication skills, coping with anxiety, and other issues that may underlie a student's hesitation to take part in class. My rubric for participation is as follows: Top participators = 5%; more than most = 4%; average participation = 3%; less than most = 2%; little participation = 1%; none = 0%

WORKSHEETS

Work sheets covering research studies and related topics will be given as assignments to be done and discussed at the next class. These will be worth 10% of the overall grade and divided equally unless stated otherwise. These assignments must be submitted to D2L prior to class; we will then discuss these in class. We will use small and large group feedback on the responses that you generate to help you practice giving accurate and useful feedback to people. Good writing is one of the most important qualities that employers look for and value. A willingness to share your work with the class is required for this to work. The goal is NOT to make anyone look bad but to help everyone get better.

DIETARY AND PHYSICAL ACTIVITY ANALYSIS PROJECT

You will be doing a three day dietary and physical activity analysis of an "athlete" with a specific exercise goal. While many dietary analysis software programs are available <http://www.supertracker.usda.gov/> is one that is free and will be available to you and clients in the future. More detailed instructions will be given in class but the project will involve a summary of the findings and a discussion of modifications that could be enacted to help the athlete reach their goal. An athlete will be provided for you.

NUTRITION PRODUCT DEVELOPMENT AND PRESENTATION

In groups of ~3-4 you will pick a performance, fitness or health outcome, investigate nutrition related foods or supplements that might be beneficial in attaining that outcome, and create a sports nutrition product. You will present this to the class. This project will force you to investigate the scientific research behind food/supplement claims and also allow for your creativity in "marketing" this product. More detailed instructions will be given

EXAMS

Exams will cover all information in the chapter readings, outside reading material that is provided, and class discussion material. Format will be multiple choice, short answer, and longer answer involving analysis and critical thinking skills. There will be 2 in class exams and a comprehensive final.

LATE WORK POLICY

Late Work for In-class discussions (worksheets) will **NOT** be accepted. Turning in the Dietary/PA project late will result in a 1 letter grade per day penalty. Please see me ahead of time to talk about exceptions to any of the late work rules

EVALUATION / GRADING

Attendance	10%
Participation	5%
Worksheets	10%
Diet/Activity Analysis project	20%
Nutrition Product Dev. and Presentation	20%
Exams (2 x 10% and 15% final)	35%
Total	100%

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%

Tentative Course Schedule – Fall 2016

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DATES	TOPIC	RELEVANT READINGS *
Week 1 Sept 7	Course introduction	
Week 2 Sept 12 & 14	Introduction to Sports Nutrition/Worksheet #1 Defining and Measuring Energy, Energy Systems and Exercise	Chapter 1/Article 1: Hansen, E.A. et al. 2014 Int. J Sports Nut & Ex Metab. Article 2: Fernandez-Campos C. et al. 2015 Int. J Sports Nut & Ex Metab. Chapter 2, 3
Week 3 Sept 19 & 21	Carbohydrates	Chapter 4
Week 4 Sept 26 & 28	CHO end/ Protein start	CHO research article Chapter 5
Week 5 Oct 3 & 5	Proteins continued Exam #1 (Oct 5)	Protein research article
Week 6 Oct 10 & 12	Diet Assessment and Counseling Diet/Activity analysis project discussion	Guest?
Week 7 Oct 17 & 19	Fats	Chapter 6 Fat research article
Week 8 Oct 24 & 26	Water and electrolytes	Chapter 7 Water article
Week 9 Oct 31 & Nov 2	Vitamins Product proposal form due (Oct 31)	Chapter 8 Vitamin article
Week 10 Nov 7 & 9	Minerals Have met with Tom to present draft Diet/Activity project	Chapter 9 Mineral article
Week 11 Nov 14 & 16	Exam #2 (Nov 14) Diet Planning/Current topics	Chapter 10
Week 12 Nov 21 & 23	Weight and Body Comp/Lab activities Diet/Activity analysis project due Nov 23rd Doping for Gold & Why are thin people not fat	Chapter 11 Research article
Week 13 Nov 28 & 30	Disordered Eating Product presentations	Chapter 12/disordered eating article
Week 14 Dec 5 & 7	Product presentations	
Week 15 Dec 12 & 14	Diet and Exercise for Lifelong Fitness and Health/Ergogenic Aids or class choice Review/Case Study practice examples	Chapter 13 Ergogenic Aids article
Dec 20	Final Exam Tuesday 2:45 – 4:45	

* Other reading assignments will be posted to D2L