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HHP 446.01: Nutrition for Sport

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SYLLABUS
HHP 446, NUTRITION FOR SPORT
FALL SEMESTER, 2001

INSTRUCTOR

Dr. Sharon Dinkel Uhlig, Professor, Health and Human Performance
and Associate Dean, School of Education

Pertinent Health and Human Performance Information:

Office: McG 208 Phone: 243-2919

Office Hours: MWF 9:10-10:00

COURSE PURPOSE

This course is designed to provide the student with an overview of both the scientific basis and application of nutritional principles designed to enhance performance in sport. While the focus of the course is enhanced performance, maximizing health -- both for the immediate goal of increased performance and for the lifetime, will be considered equally important. The course is designed specifically to provide students with hands-on application skills.

OBJECTIVES

By the end of the semester each student should:

1. Possess a basic understanding of the behavior change process and appropriate strategies for making nutritional interventions.
2. Have a knowledge of human energy systems and fuels supplying those systems.
3. Understand the impact of participation in sport on energy expenditure and demonstrate competence in using applicable tools for assessing energy needs of athletes.
4. Have a knowledge of the limitations of and guidelines for using microcomputer diet analysis programs. Be able to use appropriate assessment strategies and microcomputer diet analysis to successfully complete a dietary analysis/intervention plan for an athlete.
5. Have a knowledge of the role carbohydrates and fats play in providing appropriate (effective and healthy) sources of energy for a variety of training diets.
6. Be able to plan a pre-competition diet designed to maximize muscle glycogen storage.
7. Understand the principles of a nutritionally adequate and balanced diet with particular respect to protein, vitamin and mineral needs of athletes. Be familiar with, and competent using, applicable food group plans for structuring the diets of athletes.
8. Possess an awareness of the various energy nutrient supplements available, and a knowledge of strategies for their effective and safe use in the training and competitive diets of athletes.
9. Understand the implications of timing and composition of meals and snacks in both the training and competitive diets of athletes in a variety of sports.
10. Have a knowledge of normal and exercise fluid needs as well as the impact of dehydration on performance and health. Be able to complete an assessment of hydration habits, and select appropriate pre-, during and post-event carbohydrate, electrolyte and fluid intakes for athletes in a variety of sport settings.
11. Possess an understanding of available techniques for determining ideal weight for athletes, and be cognizant of the physiological and psychological implications of using those techniques.
12. Have a knowledge of the principles of a successful weight gain intervention, including

- assessment/screening, dietary and exercise principles, and evaluation and monitoring.
13. Understand the various weight loss patterns found in sport, and principles for healthy and effective weight management for optimal sport performance.
 14. Have an understanding of eating disorders and specific strategies for confrontation of an athlete suspected of pathological eating behavior.

INSTRUCTIONAL METHODS

This course will be a combination lecture/lab/project course. Two labs are included: Dietary Assessment/Intervention and Hydration Assessment. Several in-class and out-of-class projects will be included throughout the course.

COURSE OUTLINE

- I. Introduction to sports nutrition principles (Chapter 1)
- II. The intervention process
 - A. Assessment (pp. 287-293)
 - B. Selection of an intervention
 - C. Timing of interventions
 - D. Administration/evaluation
 - E. Behavior change and athletes (pp. 387-390)
- III. Energy
 - A. Human energy/fuel stores (Chapter 3)
 - B. Provision of adequate energy (Review Chapter 3 + pp. 384-387)
 - C. Provision of appropriate energy
 1. Energy nutrient guidelines
 2. Carbohydrates (Chapter 4)
 3. Fats (Chapter 5)
- IV. Provision of a nutritionally adequate diet
 - A. Protein (Chapter 6)
 - B. Energy nutrient supplements
 - C. Vitamin/mineral issues (Chapters 2, 7 & 8)
 - D. Food group plans for athletes -- blending adequacy, balance and appropriate energy
- V. Timing and composition of meals and snacks (Review Chapter 2 -- pp. 68-71 & Chapter 4)
 - A. Training
 - B. Event
- VI. Fluid and hydration (Chapter 9)
 - A. Normal and exercise fluid needs
 - B. Exercise in the heat -- impacts of hypohydration
 - C. Carbohydrate, electrolyte and fluid needs in various types of sport
- VII. Weight management
 - A. Ideal weight determination (Chapter 10)
 - B. Weight gain interventions (Chapter 12)
 - C. Weight loss patterns and interventions in athletes (Chapter 11)
 - D. Eating Disorders

EVALUATION COMPONENTS AND CRITERIA

CRITERIA/WEIGHT:

	UNDERGRADUATE	GRADUATE
Quizzes/Examinations		70%
Laboratory Reports		60%
Projects		15%
		15%
Graduate Project		15%
		10%

EXPLANATION OF COMPONENTS:

Quizzes/Examinations

- A Midterm and Final Examination (scheduled for THURSDAY, DECEMBER 20, 8:00 - 10:00) are planned.
- One or two quizzes are likely, particularly in preparation for the first examination.
- ALL ARE COMPREHENSIVE!

Laboratory Reports

- Evaluation Criteria: Content, Punctuality, Presentation

-- ALL LABORATORY REPORTS MUST BE TYPED!

Projects

- One major service project is planned for the latter part of the semester. This will be a group project to develop and refine nutrition information handouts for athletes to be used in The University of Montana Athletic Treatment Facility.
- A limited number of additional in-class or out-of-class projects will be interspersed throughout the semester.

Graduate Project

OPTION ONE: ADDITIONAL ATHLETE INFORMATION HANDOUTS

Two one-page (front/back) informational handouts regarding selected nutrition for sport topics. Topics must be pre-approved by the instructor, and each handout should meet the following criteria:

1. Be applicable to athletes in general or athletes participating in a particular sport.
2. Include both scientific principles presented at the level of the athlete and application information -- both in a concise, readable format.
3. Reflect current scientific knowledge and recommended practice.
4. Be accompanied by a separate list of references -- minimum four per handout.

OPTION TWO: MINI RESEARCH PAPERS

Two, three- to four-page, research papers addressing nutrition for sport topics of particular interest to you. (Topics must be pre-approved by the instructor.) Minimum 6 current scientific references per paper.

COURSE TEXTBOOK

Williams, Melvin H. Nutrition for Health, Fitness and Sport, Sixth Edition, WCB McGraw-Hill Publishers, 2002.

OPTIONAL RESOURCE

“Nutrition and Athletic Performance,” Joint Position Statement of the American College of Sports Medicine, American Dietetic Association and Dietitians of Canada, December, 2000. This publication can be downloaded from the American College of Sports Medicine web site at <http://www.msse.org>.

HEALTH AND HUMAN PERFORMANCE DEPARTMENT POLICY MINIMUM GPA REQUIREMENTS

Beginning with the 1999-2000 academic year, a minimum cumulative GPA of 2.25 is required for declared first and second major Health and Human Performance undergraduate students.

The enforcement policy for Health and Human Performance undergraduate students who fall below the 2.25 GPA minimum is as follows:

1. The first semester with cumulative GPA below 2.25 the student receives a ***Notice of Departmental Probation Warning***. The probationary warning alerts the student of the consequences of a continued sub-minimum cumulative GPA. No restrictions are placed upon the student at this point.
2. The second consecutive semester with cumulative GPA below 2.25 GPA the student receives a ***Notice of Departmental Restriction***. The restrictive notice alerts the student that he/she is prohibited from taking HHP 300-400 level courses and will be forced to drop HHP 300-400 level courses he/she is enrolled in for the subsequent semester. Students on restrictive status will be allowed to re-take any HHP 300-400 level course to improve a poor grade.
3. A student on Departmental Restriction cannot take HHP 300-400 level courses until his/her cumulative GPA is raised above the 2.25 minimum requirement.
4. Students may wish to appeal their placement on Departmental Restriction. The Appeals Policy is on file in the Health and Human Performance Main Office.