

**Family and Consumer Sciences 4755 Nutrition for Physical Performance
Fall 2012**

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Office Hours: M, W: 12-2 and T, TR: 2-3

Course Description

Examination of metabolism and energy systems related to physical performance. Plan optimal diets for performance. Examination and evaluation of controversial practices that may influence metabolism and performance.

Prerequisites

FCS 2100 and BIO 2001G are prerequisites for this course. If you have not completed these courses, please do not stay in the class as you will not receive credit for the course.

Course Objectives

Upon completion of this course, students will

- a. Critically evaluate literature on nutrition and physical performance.
- b. Discuss physiology of normal digestion and absorption of nutrients.
- c. Analyze nutritional requirements of healthy individuals in the life cycle and in sports exercise.
- d. Explain the mechanism of water, electrolytes, and temperature regulation at rest and during physical activity.
- e. Identify dietary recommendations for different types of activities.
- f. Apply scientific principles in evaluation of ergogenic aids.
- g. Evaluate techniques of body composition analysis.
- h. Explain the role of regular physical activity in physical performance throughout the life cycle.

Textbook

Fink, H., Burgoon, L., Mikesky, A. (2005). Practical Applications in Sports Nutrition. Jones and Bartlett Publishers, Sudbury, Massachusetts.

Frequently Asked Questions about Course Policies and Procedures

I have a documented disability. What do I do?

Please contact the Office of Disability Services (6583) ASAP.

Can I make up an exam?

Exams will not be made up. If you must miss an exam or quiz, you must notify the instructor within 24 hours BEFORE exam or quiz time and follow up with appropriate written documentation. If excused from an exam, the point value of the exam or quiz will be added to the next scheduled exam or quiz. If unexcused (reason for absence is not excused or the procedures were not followed), no credit will be allowed.

Can I make up assignments?

Assignments are due at the beginning of class time on the date listed on the schedule. There is no such thing as a **late assignment** in this course. If it is not brought to class on the assigned day, no credit will be given for the assignment. Exceptions include an excused absence only.

Can I skip class?

Per University Policy, **attendance** is expected at all class sessions. When an absence does occur, the student is responsible for the material covered during the absence. When possible, the student should notify the instructor in advance of an anticipated absence.

Ms. Rodakowski will grant make-up privileges (when possible) to students for properly verified absences due to illness, emergency, or participation in an official University activity; and such absences will not militate against students in classes in which attendance is used directly in determining final grades.

Attendance at weddings, and birth/adoption of a baby/child are all wonderful life experiences; however, they do not constitute an excused absence. It is the student's responsibility to initiate plans for make-up work and to complete it promptly. If in the instructor's judgment the duration or number of absences renders make-up work unfeasible, the instructor may contact the Vice President for Student Affairs and the Department Chairperson to determine an appropriate action.

What counts as an "Excused Absence?"

Excused:

- A doctors appointment with a doctors note for the day that you had missed.
- A Funeral with documentation
- A EIU athletes sport event with documentation
- Any EIU sponsored event in which you have documentation that you are required to attend
- A conference in which you are required to attend with documentation

HINT: NEED DOCUMENTATION

Not Excused:

- Weddings
- Headaches
- Sick without a doctors note
- Car broke down
- Vacation

What happens if I oversleep and I come in late?

Tardiness is not an acceptable behavior and the instructor reserves the right to enforce a tardy policy, if deemed necessary. If your absence or tardiness causes you to miss any class announcements, it is your responsibility to find out what announcements were made and how they might affect you. **On days of quizzes, we have lectures after. Therefore, we have to wait on everyone to finish the exam or quiz. On these days, if you are more than 10 minutes late to class, you will not be able to take the quiz or exam.**

Does Tardiness or missing class affect my grade?

Attendance and tardiness will be monitored throughout the semester. Points will not be given or deducted when missing or coming to class. However, when deciding on bumping up a letter grade that is on the borderline, attendance will be used to determine if the letter grade will be bumped up or stayed where it is.

What is Academic Honesty?

Students are expected to do his/her own work on assignments, unless group work or collaboration with others to complete assignments has specifically been indicated. It is assumed that students will honor the tradition of **academic honesty**. Per Eastern's Student Conduct Code IA, plagiarism will not be tolerated in this class.

Should incidents of suspected classroom cheating or plagiarism occur, the University's policy on student misconduct will be followed.

Can I use my cell phone or laptop?

No. Laptops and cell phones are not allowed to be used in the classroom. Cell phones must be turned off and put away during class time. Magazine reading, newspaper reading, and working on materials for classes or projects other than those for this class are prohibited. iPod use is also prohibited. Talking during class lecture is not tolerated.

What is the best way to contact the professor?

Panthermail is the best way to get in touch with the professor. Webct does have email but should not be used when a student would like an immediate response to a question.

If I am not coming to class, can I email the assignment that is due?

Emailed assignments will not be accepted, and the instructor is not responsible for assignments turned into the mailbox or under the office door. The assignment needs to be a hard copy that is handed in as soon as class starts to receive any credit.

Assignments and Grading

Exams:

Four 75 point exams and one 100 point comprehensive exam

One day menu for Carbohydrate loading (50 points)

- Plan a one-day menu using the protocol reviewed in class and provided in the CHO loading assignment/grading sheet.
- Follow the planned menu for one day.
- Write a reaction paper to the experience as outlined in the assignment sheet.
- Be prepared to share and discuss your experience with the class.
- The assignment must include calculations for calories and macronutrients with percentages of total calories and calories provided by each of the macronutrient.

Article Reviews: (90 points)

Three reviews from approved professional journals

- Review three different research articles. Reviews of book chapters, abstracts, lay articles, and other non-research based articles are not acceptable and will receive a grade of zero.
 - Article one may be related to any topic presented in the first four weeks of class including carbohydrates, glycemic index, protein, fat, carbohydrate loading, fuel for energy and energy metabolism.
 - Article two will be related to life stages including childhood, adolescence, pregnancy, lactation, and geriatrics and their relationship to exercise or nutrition.
 - Article three will be on chronic disease. Select a condition/disease such as cardiovascular disease, hypertension, diabetes, osteoporosis, and physical or mental disabilities and their relationship to exercise and nutrition.
- Each research article selected for this review should be a minimum of four pages long and include a reference list.
- Each review is worth 30 points.
- Your reviews should include a full citation in APA style, a brief summary of the article, and your evaluation of the research/article. Your evaluation should discuss the study design/methodology, results, conclusions and other observations you have about the article. You must also submit a copy of the article with your review for grading. Points

are assigned on a basis of completeness of citation, summary and evaluation as well as appropriateness of the article.

- Be prepared to verbally share reviews with the class. Classroom participation points are given for presenting the article review in class.

Recommended journals for article reviews:

International Journal of Sports Medicine
International Journal of Sports Nutrition
Medicine and Science in Sports and Exercise
Physician and Sports-Medicine
Journal of the American Dietetic Association

Controversial practices or Ergogenic Aides Paper, Presentation and Fact Sheet (50 points)

- Select a controversial practice or ergogenic aid **with instructor approval**.
- Find at least three reliable references on the topic. Using articles and documents from the manufacturer pamphlets or websites may be biased. No more than one of the references may be from the manufacturer. Do not use these as your only source
- **Prepare a written review** of the product (no more than 3 pages) that includes:
 - Product/practice claims
 - Cost of the product
 - Evidence –based analysis of the claims using scientific peer-reviewed journals for references including physiological effect and proposed v proven performance enhancement
 - Your assessment of the product including the efficacy, usefulness and appropriateness of the product
 - Reference list (include only credible references, not product manufacturer information)
- **Prepare a one page fact sheet** to illustrate your presentation to the class. Be creative as you design and create your fact sheet. The final product should look professional and eye appealing.
- The fact sheet should include:
 - Claims made about the product/practice
 - Cost of the product
 - Physiological effect and proposed performance enhancement
 - Your assessment of the efficacy, usefulness, and appropriateness of the product
 - Each of these five areas will be evaluated along with the design and eye appeal of the final product. A maximum of eight points will be given for each section.
 - Be prepared to verbally share the information with the class.

Examples of controversial practices and ergogenic aides:

| | |
|----------------------------|----------------------|
| Amino Acid Supplementation | B Vitamins |
| Protein supplementation | Vitamin E |
| Iron supplementation | Wheat Germ |
| Brewer's Yeast | Bee Pollen |
| Pangamic Acid | Lecithin |
| Herbs | Fructose |
| Sodium Bicarbonate | Amphetamine |
| Marijuana | Human Growth Hormone |
| Steroids | Alcohol |
| Tobacco | Creatine |

Chromium
 Ginseng
 Beta-hydroxy-beta-methylbutarate
 Androstenedione
 Dehydroepiandrosterone

Caffeine
 Glycerol
 Pyruvate
 Ribose
 Carnosine

Dietary analysis/Diet history/Menu plans (150 points)

- Conduct a diet history of a competitive athlete. You may decide what questions to ask but the questions and answers must be included with this assignment.
- Obtain a three day dietary intake of that athlete and analyze utilizing computer analysis available in the library or in Lumpkin Computer Lab. Include the three day dietary intake as given to you by the athlete and the computer printout of the analysis.
- Calculate the athlete’s calorie and macronutrient needs using the formulas presented in class and in the textbook. Include the calculations with the assignment. This may not be calculated by the computer analysis program.
- Plan three days of menus for a training diet that meet the Dietary Guidelines, calorie and macronutrient needs.
- Plan pre and post event menus and include in menus.
- Identify any special considerations related to this athlete’s needs or special problems related to the sport.
- Assignment will be graded according to the criteria discussed in class and detailed in the assignment sheet.

NOTE: Additional points may be earned for in-class activities and/or quizzes. These activities will be presented and completed in class and therefore cannot be made up in the event of absence.

Graduate Students only: (100 points)

- Students enrolling for graduate credit will complete a **research paper** or **creative project** related to their specific area of interest in nutrition and physical activity.
- Please see me early in the semester to discuss your area of interest.

| Assignment | Possible points | Points Earned |
|--|---|---------------|
| Exam 1 | 75 | |
| Exam 2 | 75 | |
| Exam 3 | 75 | |
| Comprehensive Final | 100 | |
| Article Review | 30 | |
| Article Review | 30 | |
| Article Review | 30 | |
| Carbohydrate Loading | 50 | |
| Ergogenic Aid Fact Sheet, paper and presentation | 50 | |
| Dietary Analysis/Menu | 150 | |
| Graduate Student Presentation | 100 | |
| Total | 710 to 810 plus possible activity points. | |

| Week | Topic/Assignments | Readings |
|--------------|--|--|
| 1 | | |
| (8/20) | Syllabus | |
| (8/22) | Introduction to Sports Nutrition: Nutrition Review | Ch 1 |
| (8/24) | Nutrients: Ingestion to Energy Metabolism | Ch 2 |
| 2 | | |
| (8/27) | Nutrients: Ingestion to Energy Metabolism | Ch 2 |
| (8/29) | Carbohydrates | Ch 3 Assign 1 st Article |
| (8/31) | Carbohydrate Loading (Bring calculator) | Ch 3 Assign CHO loading exercise |
| 3 | | |
| (9/3) | No Class | |
| (9/5) | Predicting Energy Expenditure | Handout |
| (9/7) | Fats | Ch 4 |
| 4 | | |
| (9/10) | Fats | Ch 4 |
| (9/12) | Proteins | Ch 5 |
| (9/14) | Proteins | Ch 5 |
| 5 | | |
| (9/17) | Menu Writing | Handout |
| (9/19) | Exam 1 | Ch 1-5 |
| (9/21) | Present 1st article Review | <i>Article Review #1 Due</i> |
| 6 | | |
| (9/24) | Present 1st article Review | |
| (9/26) | CHO loading Discussion | <i>CHO Loading Exercise Due</i> |
| (9/28) | Nutrition Consultation with Athletes | Ch 10 |
| 7 | | |
| (10/1) | Nutrition Consultation with Athletes | Ch 10 Assign Dietary analysis and menu planning |
| (10/3) | Weight Management | Ch 11 |
| (10/5) | No Class | |
| 8 | | |
| (10/8) | Weight Management | Ch 11 |
| (10/10) | Endurance Athletes, Strength Power Athletes, Team Sport Athletes | Ch 12, 13, 14 |
| (10/12) | Endurance Athletes, Strength Power Athletes, Team Sport Athletes | Ch 12, 13, 14 |
| 9 | | |
| (10/15) | Ergogenic Aids | Ch 9 |
| (10/17) | Ergogenic Aids | Ch 9 Assign ergogenic fact sheet |
| (10/19) | Exam 2 | Ch 9-14 |
| 10 | | |

| | | |
|--------------|--|--|
| (10/22) | Vitamins | Ch 6 |
| (10/24) | No Class | |
| (10/26) | Vitamins | Ch 6 |
| 11 | | |
| (10/29) | Present on 2nd article | <i>2nd article Review due</i> |
| (10/31) | Present on 2nd article | |
| (11/2) | Minerals | Ch 7 |
| 12 | | |
| (11/5) | Minerals | Ch 7 |
| (11/7) | Child Adolescent Athlete Nutrition Nutrition During Pregnancy and Lactation Diabetes and the Athlete | Ch 15 |
| (11/9) | Disordered Eating | <i>Dietary analysis and Menu planning due</i> Ch 15 |
| 13 | | |
| (11/12) | Exam 3 | Ch 6,7,15 |
| (11/14) | Present on Ergogenic Aid Fact Sheet | <i>Ergogenic Fact Sheet Due</i> |
| (11/16) | Present on Ergogenic Aid Fact Sheet | |
| 14 | | |
| (11/19) | Thanksgiving Break | |
| 15 | | |
| (11/26) | Present on Ergogenic Aid Fact Sheet | |
| (11/28) | Present on Ergogenic Aid Fact Sheet | |
| (11/30) | Research and Graduate Student Creative Projects | |
| 16 | | |
| (12/3) | Present on 3rd article | <i>3rd article due</i> |
| (12/5) | Present on 3rd article | |
| (12/7) | Review for Final | |
| 12/13 | Final examination 2:45 – 4:45 | Comprehensive |