NUIP 6320
Advanced Sport Nutrition
Spring 2022

Instructor: Katherine Beals, PhD, RD, FACSM, CSSD
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Email: *katherine.beals@hsc.utah.edu*
Class days/times: Tuesday 12:25-1:45 pm (via zoom)
Office hours: Thursday 12:05-1:30 pm or scheduled by appointment
Course Website: Canvas: https://utah.instructure.com
(class notes & assignments found here!)
* Problems: campus "help desk": 801-581-4000 (option 1)

Course Pre-requisites: Biochemistry, exercise physiology and at least one basic nutrition course. ***In addition, you must be concurrently enrolled in or have completed NUIP 3020.***

Journal articles: Journal articles will be provided for students on Canvas.

Adjunct texts: There is no textbook for this course; however, the following are excellent references to have as you embark on your education and future career in sport nutrition.

- Beals KA. *Nutritional Needs of Female Athletes: From Research to Practice*. CRC Press. 2012.
- Burke L, Deakin V, Minehan M. *Clinical Sport Nutrition*. 6th edition McGraw-Hill, 2021.
- Karpinski C and Rosenbloom C. (eds). *Sports Nutrition: A Handbook for Professionals, 6th ed.* SCAN dietetic practice group, American Dietetic Association, 2017.
- Manore MM , Meyer N, and Thompson J. *Sport Nutrition for Health and Performance*. Human Kinetics. Champaign, IL. 2009.

Course Description/Philosophy: This course is designed for graduate students already familiar with the basic concepts of nutrition, biochemistry and exercise physiology who are interested in exploring how these concepts relate to sports nutrition and exercise performance. The focus of the course will be on the biochemical and physiological mechanisms underlying nutrition as it relates to exercise metabolism and sports performance with the goal of answering the "why and how" nutrition and diet can help or hinder athletic performance. The ability to evaluate the science behind a nutritional approach or dietary supplement designed to enhance performance is an important tool for a sports dietitians and exercise physiologists. Students will be required to read, discuss and critique current exercise physiology and sport nutrition literature.

Learning Outcomes: Upon successful completion of this course the student will be able to:
- Describe how physical performance is dependent upon the complex interactions of exercise, training **and** nutrition.
- Identify specific nutrient needs that may be unique to individuals who engage in physical activity/sport.
- Apply the basic principles of nutrition support to exercise training and athletic performance and understand how these principles work on a cellular level.
- Evaluate current research issues in sport nutrition and apply this research to the athlete or active individual.

Evaluation of Student Performance

Point Breakdown

***Final grades for the course will be based on the following:*

Quizzes & Assignments from 3020	600
Journal Article Presentation:	60
Supplement Review	30
Class discussion/participation	10
Total Points Possible:	**700**

Grading

A: (95-100%)	C: (74-76%)
A-: (90-94%)	C-: (70-73%)
B+: (87-89%)	D+: (67-69%)
B: (84-86%)	D: (64-66%)
B-: (80-83%)	D-: (60-63%)
C+: (77-79%)	F: (< 60%)

Course Policies/Procedures

- This is a seminar that maintains a "journal club" format; we will be spending the bulk of the time reading, evaluating, interpreting and applying research. Thus it is **IMPERATIVE** that you have read the articles assigned for a given class session prior to coming to class. Ten points will be given to class participation, which includes evidence that you have read the articles and are engaging in the class discussions.
- This course will follow the *Accommodation Policy* as stated in the University's Policy and Procedures Manual, Chapter VII, Section 16. Students should address accommodations relative to scheduling, course content and legislated (Americans with Disabilities Act) areas directly with the instructor.
- *The Code of Student Rights and Responsibilities* is provided in detail on the University of Utah web page (www.admin.utah.edu/ppmanual/8/8-10.html). Students have specific rights in the classroom as detailed in the code. The code also specifies proscribed conduct that involves cheating on tests, plagiarism, and/or collusion, as well as fraud, theft, etc. Students should read the Code carefully to become aware of these issues. Students may receive sanctions for violating one or more of these proscriptions. The instructor of this course will enforce the Code in the course; cheating and plagiarism will result in appropriate penalties, such as a failing grade on a specific exam or in the course and/or expulsion from the course. Students have the right to appeal such action to the Student Behavior Committee.
- *Addressing Sexual Misconduct:* Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).
- *Wellness Statement*: Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student's ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness; www.wellness.utah.edu; 801-581-7776.

▪ **Tentative Class Schedule**

Date	Topic
Jan. 11	**Introduction/Course Overview** ○ Introduction to the field of sports nutrition ○ Course introduction & explanation of course assignments
Jan. 18	**Nutrition Assessment** ○ Methods for standardizing dietary intake before performance testing.
Jan. 25	**Energy Metabolism & Substrate Utilization** ○ Substrate supplementation to enhance performance (ketone supplementation)
Feb. 1	**Carbohydrates & Exercise** ○ CHO mouth rinse—is swallowing necessary?
Feb. 8	**Carbohydrate & Exercise** ○ CHO replacement during exercise—Does type matter?
Feb. 15	**Lipids & Exercise** ○ High-fat/ketogenic diets: Are they ergogenic or ergolyitic?
Feb. 22	**Lipids & Exercise** ○ Can omega 3 fatty acids speed recovery and/or enhance performance?
March 1	**Protein & Exercise** ○ AA supplementation
March 15	**Protein & Exercise** ○ Collagen/Gelatin supplements- ergogenic or ergolytic?
March 22	**Fluids & Electrolytes** ○ Does fluid type influence hydration and/or performance?
March 29	**Nutritional Supplements & Ergogenic Aids** ○ IOC Position Stand
April 5	**Energy Balance & Weight Management in Athletes** ○ Intermittent fasting: ergogenic or ergolytic?
April 12	**Antioxidants & Exercise** ○ Beneficial or harmful to training adaptations and performance?
April 19	**Minerals & Exercise** ○ Iron deficiency and performance-
April 26	**Supplement Presentations**

** Assigned readings will be available on Canvas*