

## NUTRITION ASPECTS OF HUMAN PERFORMANCE

APK6167 ~ 3 CREDITS ~ SUMMER 2021

**INSTRUCTOR:**

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**OFFICE HOURS:** : Office Hours are by appointment

**MEETING TIME/LOCATION:** CANVAS platform

**COURSE DESCRIPTION:** This course addresses the aspects of nutrition that are related to exercise performance. Emphasis will be placed on the bioenergetics systems, the components of nutrition, nutritional and body composition assessments, ergogenic aids and diet modifications for physically active individuals and athletes.

**PREREQUISITE KNOWLEDGE AND SKILLS:** HUN2201 and APK2105 or instructor permission

**REQUIRED AND RECOMMENDED MATERIALS:**

Fink, H.H. and A.E. Mikesky. **Practical Applications in Sports Nutrition 6th Edition.** Jones & Bartlett Learning. 2020.

The following research articles are provided within Canvas

1. Grout, A., et al. Basic Principles of Sports Nutrition. *Curr Nutr Rep* (2016) 5:213-222
2. La Bounty, P.M., et al. International Society of Sports Nutrition position stand: meal frequency. *J Int Soc Sport Nut.* 2011; 8:4.
3. Burke, L.M., et al. Carbohydrates for training and competition. *J of Sport Sci,* 29:sup1, S17-S27.

4. Da Boit, M., et al. Fit with good fat? The role of n3 polyunsaturated fatty acids on exercise performance. *Metabolism*; 66(2017): 45-54.
5. Jager, R., et al. International Society of Sports Nutrition Position Stand: protein and exercise. *J. Int Soc Sport Nut* 2017; 14:20.
6. Owens, D.J., et al. Vitamin D and the athlete – emerging insights. *Eur J Sport Sci.* 15:1, 73-84
7. Heffernan, M.S., et al. The Role of Minerals and Trace Element Supplementation in Exercise and Athletic Performance: A Systematic Review. *Nutrients*; 11:3.
8. Casa, D., et al. National Athletic Trainers' Association Position Statement: Fluid Replacement for Athletes. *J Ath Train* 2000;35(2):212-224
9. Kerksick, C.M., et al. ISSN exercise & sports nutrition review update: research & recommendations. *J Int Soc Sport Nut.* 2018; 15:38.
10. Aragon, A.A., et al. International Society of Sports Nutrition position stand: diets and body composition. *J Int Soc Sport Nut* 2017; 14:16.
11. Tiller, N.B., et al. International Society of Sports Nutrition Position Stand: nutritional considerations for single-stage ultra-marathon training and racing. *J Int Soc Sport Nut.* 2019; 16:50.
12. Mota, et al. Nutritional Periodization: Applications for the Strength Athlete. *Str Cond J.* 2019, 41:5, 69:78.
13. Kerksick, C., et al. International Society of Sports Nutrition position stand: Nutrient timing. *J Int Soc Sport Nut* 2017; 14:33.
14. Jager, R., et al. International Society of Sports Nutrition Position Stand: Probiotics. *J Int Soc Sport Nut.* 2019; 16:62.

**COURSE FORMAT:** Students access and complete course assignments through the APK6167 Canvas page. Course topics are organized into weekly learning modules. Each module includes ~4 practice activities corresponding with the module's learning materials (i.e. textbook reading, research articles, and associated lecture videos) as well as a graded module quiz. A midterm exam and final exam are included in addition to the module assignments. Students will have access to all learning modules and assignments from the first day of the course. Students may work at their own pace but must progress according to the course schedule of topics.

**COURSE LEARNING OBJECTIVES:** By the end of this course students will be able to:

Describe the digestion of macronutrients and micronutrients

Clarify effects of high and low carbohydrate diets on exercise performance

List the potential athletic benefits of manipulating fat content in our diet

Reflect on increasing protein intake to promote exercise adaptations

Summarize specific physiologic functions of micronutrients

Specify fluid intake recommendations before, during, and after exercise

Calculate macronutrient recommendations for endurance athletes, strength/power athletes, and team sport athletes

Provide sports nutrition recommendations for special populations of athletes

Recommend nutrition strategies related to weight management goals

Contrast the benefits and challenges of unique body composition assessments

Organize macronutrient recommendations within a periodized training program

List the ergogenic benefits of popular dietary supplements

Complete sports nutrition certification exams from a variety of organizations

## COURSE AND UNIVERSITY POLICIES:

### **ATTENDANCE POLICY:**

Active participation in the course is mandatory. Students are permitted unlimited attempts on module practice assignments so that they may review any missed questions or prepare for quizzes and exams. Interaction with the course online Yellowdig discussion board is part of the final grade in the course.

### **PERSONAL CONDUCT POLICY:**

Students are expected to review and adhere to the UF Netiquette guide for online courses

<http://teach.ufl.edu/wp-content/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf>

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment."

The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions.

Furthermore, you are obliged to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult the instructor or TA in this class.

### **EXAM MAKE-UP POLICY:**

Exams may NOT be submitted late. Students will have access to exams for one week prior to the due date. Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the online catalog at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

### **ACCOMMODATING STUDENTS WITH DISABILITIES:**

Students requesting accommodation for disabilities must first register with the Dean of Students Office (<http://www.dso.ufl.edu/drc/>). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

## **COURSE EVALUATIONS:**

Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at <https://evaluations.ufl.edu> or directly in CANVAS. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open.

## **GETTING HELP:**

### Health and Wellness

- U Matter, We Care: If you or a friend is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu) or 352 392-1575
- Counseling and Wellness Center: <https://counseling.ufl.edu/>, 352-392-1575
- Sexual Assault Recovery Services (SARS) - Student Health Care Center, 392-1161
- University Police Department, 392-1111 (or 9-1-1 for emergencies)  
<http://www.police.ufl.edu/>

### Academic Resources

- E-learning technical support, 352-392-4357 (select option 2) or e-mail to [Learning-support@ufl.edu](mailto:Learning-support@ufl.edu). <https://lss.at.ufl.edu/help.shtml>
- Career Connections Center, Reitz Union, 392-1601. Career assistance and counseling. <https://career.ufl.edu/>
- Library Support, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.
- Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. <http://teachingcenter.ufl.edu/>
- Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. <http://writing.ufl.edu/writing-studio/>
- Student Complaints On-Campus: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/> On-Line Students Complaints: <http://distance.ufl.edu/student-complaint-process/>

**GRADING SCALE:** All course assignments are administered and graded within the APK6167 Canvas course page, so students will have access to all grades as they submit assignments. Any assignment that requires the instructor to manually grade some aspect of it will be graded within one week of its due date, including the semester exams. Final Grades will be rounded up at .5 and above. The table below provides a reference. More detailed information regarding current UF grading policies can be found here: <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>. Any requests for additional extra credit or special exceptions to these grading policies will be interpreted as an honor code violation (i.e. asking for preferential treatment) and will be handled accordingly.

Letter Grade	Percent of Total Points Associated with Each Letter Grade	GPA Impact of Each Letter Grade
A	92.5-100%	4.0
A-	89.50 – 92.49%	3.7
B+	86.50-89.49%	3.33
B	79.50-86.49%	3.0
C+	76.50-79.49%	2.33
C	69.50-76.49%	2.0
D+	66.50-69.49%	1.33
D	59.50-66.49%	1.0
E	0-59.49%	0

## GRADING:

Evaluation Components	Points Per Component	Weighted % of Total Grade
Module Quizzes	110 points	30%
Yellowdig Participation	100 points	10%
Article Synopses (x4)	40 points	10%
Midterm Exam	50 points	20%
Cumulative Final Exam	50 points	30%

**Module Quizzes** - Each learning module contains a graded quiz consisting of 10 objective questions related to all components of the module. Quiz questions will be randomly selected from a test bank. Quizzes are not timed; however, the Honorlock proctoring service is required to complete each quiz. Honorlock is included on the e-Learning platform and no additional downloads are required. All quizzes are available from the first day of classes, but each module has a due date corresponding to the end of the week of the module according to the course schedule. Specifically, quizzes are due by Monday at 2:59am EST (Sunday at 11:59pm PST) each week.

**Yellowdig Participation** - This course incorporates an application called Yellowdig that provides a social media-like discussion board providing opportunities for engagement and discussion between classmates and the instructor. Points are earned for each interaction a student has with the Yellowdig platform. Students have the ability to earn a maximum total of 1,200 points each week in Yellowdig and the app sums the weekly totals throughout the semester to create a cumulative final point total. Students earning totals of 12,000 points or higher in Yellowdig by Friday, August 6 will earn a score of "100" for the Yellowdig Participation assignment on Canvas. The percentage of total points out of 12,000 will be used as the grade for the Yellowdig Participation Assignment on Canvas for students earning less than 12,000 total points. Yellowdig is included within e-Learning, no additional downloads are required.

**Article Synopses** - Students are expected to post a minimum of 4 research article synopses to the Yellowdig discussion board by Saturday, August 7th at 2:59am EST. Each article synopsis requires students to search a relevant database of research journals (i.e. Google Scholar, SportDiscus, PubMed) to find a peer-reviewed research article related to one of the course topics. Students should read the selected articles in their entirety and then post a brief synopsis of the article(s) to Yellowdig and to the corresponding assignment in e-Learning. The synopsis should be written and should include the following headers: 1. Reason for Selection 2. Research Problem 3. Methods 4. Results/Conclusions 5. Takeaways. Students should briefly summarize why they selected the article, what research problem was addressed in the article, how the experiment was conducted, the most important results and explanations for the results provided by the authors of the study, and what information from the article can be used by classmates in their strength and conditioning decision making processes. A pdf copy of the article should be uploaded to both the Yellowdig post and e-Learning assignment. The same written synopsis can be submitted to both Yellowdig and e-Learning.

**Midterm Exam** – The midterm exam consists of 50 objective questions (multiple choice, matching, true/false) worth 1 point each. Questions will require the application of course material or knowledge of basic scientific principles covered within each of the first 6 learning modules. Exam questions are generated by the course instructor and are randomly selected from a test bank. Students should prepare for the exam by completing all weekly course readings, practice activities, and module quizzes prior to the exam. The exam is not timed; however, the Honorlock proctoring service is required to complete it. Honorlock is included on the e-Learning platform and no additional downloads are required. Two attempts are allowed on the exam and the highest earned score will count towards the final grade. Students will be unable to view their questions nor answers between attempts. The exam will be available for one week following Module 6 in the course schedule and is due Monday, June 28 at 2:59am EST (Sunday, June 27 at 11:59pm PST)

**Cumulative Final Exam** - The cumulative final exam will consist of 100 objective questions (multiple choice, matching, true/false) worth 0.5 point each. Questions will require the application of course material or knowledge of basic scientific principles covered within each of the 12 learning modules. Exam questions are generated by the course instructor and are randomly selected from a test bank. Students should prepare for the exam by completing all weekly course readings, practice activities, and module quizzes prior to the exam. The exam is not timed; however, the Honorlock proctoring service is required to complete it. Honorlock is included on the e-Learning platform and no additional downloads are required. Two attempts are allowed on the exam and the highest earned score will count towards the final grade. Students will be unable to view their questions nor answers between attempts. The exam will be available for one week following Module 11 in the course schedule and is due Saturday, August 7 at 2:59am EST (Friday, August 6 at 11:59pm PST)

**Module Activities** - Approximately four ungraded practice assignments are available in each of the 12 learning modules. Links to the practice assignments are under the "Practice" header on the module learning page. The practice assignments correspond to the learning material in the module. They may be completed an unlimited number of times, Honorlock is not required, and questions and answers are viewable between attempts. All practice assignments are available from the first day of the course and there are no due dates. These are optional assignments designed to help students gauge their comprehension and application of course learning material.

## WEEKLY COURSE SCHEDULE:

Week	Dates	Topic	Chapter
1	5/10 - 5/14	Introduction to Sports Nutrition   Nutrients: Ingestion to Energy Metabolism	1, 2
2	5/17 - 5/21	Carbohydrates	3
3	5/24 - 5/28	Fats	4
4	5/31 - 6/4	Proteins	5
5	6/7 - 6/11	Vitamins   Minerals	6, 7
6	6/14 - 6/18	Water	8
7	6/21 - 6/25	<b>Midterm Exam</b> Available 6/19, Due 6/28 at 2:59am EST	
8	6/28 - 7/2	Nutritional Ergogenics	9
9	7/5 - 7/9	Weight Management	11
10	7/12 - 7/16	Endurance/Ultra-endurance Events	12
11	7/19 - 7/23	Strength/Power Athletes	13
12	7/26 - 7/30	Team Sport Athletes	14
13	8/2 - 8/6	Special Considerations in Sports Nutrition	15

Final Exam: Available from Saturday, July 31 at 12:00am EST through Saturday, August 7 at 2:59am EST (Friday, August 6 at 11:59pm)

## SUCCESS AND STUDY TIPS:

- Utilize the module practice assignments as study tools. You may complete them as many times as you like. Complete the assignments while you are working through the module and then again when you are reviewing for the exams.
- Read textbook chapters, canvas readings, and research articles carefully.
- Twenty percent of the final grade comes from participation activities including posting comments to the Yellowdig board and submitting the research article synopses. Take advantage of these assignments to bring up any quiz or exam grades in which you are disappointed.