

NUTRITION ASPECTS OF HUMAN PERFORMANCE

APK6167 ~ 3 CREDITS ~ FALL 2020

INSTRUCTOR:

Blain Harrison, Ph.D, ATC, CSCS

Office: 106B FLG

Office Phone: 352-294-1704

Email: blaincharrison@ufl.edu

Preferred Method of Contact: email

OFFICE HOURS: Office Hours are Wed from 12:30 – 1:30PM EST or by appointment
(<https://ufl.zoom.us/j/2229465950>)

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. Capling, L., et al. Validity of Dietary Assessment in Athletes: A Systematic Review. *Nutrients.* 2017; 9, 1313.
11. Aragon, A.A., et al. International Society of Sports Nutrition position stand: diets and body composition. *J Int Soc Sport Nut* 2017; 14:16.
12. 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.
13. Mota, et al. Nutritional Periodization: Applications for the Strength Athlete. *Str Cond J.* 2019, 41:5, 69:78.
14. Kerksick, C., et al. International Society of Sports Nutrition position stand: Nutrient timing. *J Int Soc Sport Nut* 2017; 14:33.
15. Jager, R., et al. International Society of Sports Nutrition Position Stand: Probiotics. *J Int Soc Sport Nut.* 2019; 16:62.

COURSE FORMAT: Course assignments are accessed and completed online through the APK6167 Canvas page. All weekly assignments are due on Sunday at 11:59pm of the week the content is covered in the course; i.e. Module 1 assignments are due on the Sunday immediately following Module 1, etc. The module assignments fall into the same 5 categories each week including questions from the weekly textbook chapter, questions from the weekly research article, a research article synopsis, weekly food journal analysis, weekly discussion board posts, and a weekly module quiz. Students have access to all assignments at the start of the semester with the exception of the midterm exam, and the final exam. Exams are available for 24 hours on the day they are assigned as described in the course schedule. You may work at your own pace, but you must submit all assignments by their assigned due dates.

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

COURSE AND UNIVERSITY POLICIES:

ATTENDANCE POLICY:

Active participation in the course is mandatory. Points assigned to the chapter questions, Research Article questions, Weekly research article synopses, Food journal analyses, and Yellowdig posts are all counted as participation points. The accumulation of participation points over the semester designates the participation grade. Late submissions of weekly participation assignments will not be accepted and a grade of 0 will be given for the assignment.

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 be permitted to access the exams early upon receipt of evidence of a viable explanation for the need for such an accommodation. 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.

Covid-Related:

- Students in the residential section will have face-to-face instructional sessions to accomplish the student learning objectives of this course. Unless otherwise informed by the instructor, students in the residential section should report to the designated classroom on the scheduled day and time. If a residential student does not feel comfortable attending class meetings in person, he/she may attend virtually via Zoom. Weekly class meetings will be recorded. Students in the online sections may participate in the weekly scheduled office hour or by appointment. Students unable to attend virtual office hours may submit questions on the Yellowdig discussion board and these will be addressed in the subsequent weekly class meeting.
- In response to COVID-19, the following policies and requirements are in place to maintain your learning environment and to enhance the safety of our in-classroom interactions.
 - You are required to wear approved face coverings at all times during class and within buildings. Following and enforcing these policies and requirements are all of our responsibility. Failure to do so will lead to a report to the Office of Student Conduct and Conflict Resolution.
 - This course has been assigned a physical classroom with enough capacity to maintain physical distancing (6 feet between individuals) requirements. Please utilize designated seats and maintain appropriate spacing between students. Please do not move desks or stations.
 - Sanitizing supplies are available in the classroom if you wish to wipe down your desks prior to sitting down and at the end of the class.
 - Follow your instructor's guidance on how to enter and exit the classroom. Practice physical distancing to the extent possible when entering and exiting the classroom.
 - If you are experiencing COVID-19 symptoms ([Click here for guidance from the CDC on symptoms of coronavirus](#)), please use the UF Health screening system and follow the instructions on whether you are able to attend class. [Click here for UF Health guidance on what to do if you have been exposed to or are experiencing Covid-19 symptoms](#).
 - Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work. [Find more information in the university attendance policies](#).

Privacy:

Our class sessions may be audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be

recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

GETTING HELP:

Health and Wellness

- U Matter, We Care: If you or a friend is in distress, please contact 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. <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:

Evaluation Components (number of each)	Points Per Component	Weighted % of Total Grade
Participation	500 points	20%
Module Quizzes	130 points	20%
Nutrition Supplement Presentation	50 points	10%
Sports Nutrition Summary Flier	20 points	5%
Midterm Exam	100 points	20%
Comprehensive Final Exam	100 points	25%

Participation Homework – There are 4 homework assignments each week including textbook chapter reading questions, research article reading questions, a weekly research article synopsis, and a weekly food journal analysis. Chapter reading assignments consist of 5-10 short answer questions related to the content of the assigned chapter. Research article reading questions consist of 5-10 short answer questions related to the content of the assigned weekly research article. Weekly research article synopses require the student to select a peer-reviewed primary source research article related to the topic of the module and summarize the purpose, methods, results, and practical application of the study. Weekly food journal analyses require the student to record total food and fluid intake for a minimum of 1 day each week using the cronometer internet application. Students will input components of the cronometer analysis into a spreadsheet provided by the instructor to keep a running average of relevant sports nutrition nutrients. Homework assignments are due Sundays by 11:59pm during the week the particular module is covered in class. All homework assignments are available on the first day of the course for students who wish to work ahead. Students may use any available resources to answer the homework questions and may work together to complete the assignments. Honorlock will NOT be used when completing homework assignments.

YellowDig Participation – The instructor will post daily announcements and poll questions to the Yellowdig discussion board platform that students will access via a link in the APK6167 Canvas course page. Students earn points for each interaction with the yellowdig posts with different types of interactions earning a different amount of points. A maximum of 1,200points may be earned per week and a total of 10,000 points earned in Yellowdig equates to a score of “100” for the YellowDig participation assignment in Canvas. Yellowdig will push an updated grade to Canvas on a weekly basis so that students may keep track of this portion of their grade. The Yellowdig grade is grouped with the participation homework assignments when calculating the final “Participation” grade for the course.

Weekly Module Quizzes – A quiz pertaining to each week’s module is included with each module. The 10-12 question quiz is due by Sunday at 11:59pm of the week the module is covered according to the course schedule. Module quizzes are administered through the Honorlock proctoring service in Canvas and require students to use the Google Chrome browser to complete. Module quizzes are not timed, but they must be completed in a single sitting while Honorlock records the session. Students will not be able to view their responses until the Monday following the due date of the quiz.

Nutrition Supplement Presentation - Students will record a 10-minute presentation describing the chemistry, metabolism, cost, potential ergogenic benefit, and evidence- based recommendations for use of a nutritional supplement of their choice using Zoom. Instructions and Grading Rubric are provided in Canvas.

Sports Nutrition Summary Flyer – Students will create a consulting handout capable of being distributed to the athletes or clients of a sports performance facility that summarizes the relevant sports nutrition recommendations learned throughout the course. Detailed instructions and a grading rubric are available on the Canvas webpage.

Midterm Exam – The midterm exam will consist of 50 objective questions worth 1 point each for a total of 50 points. Students will complete the exam online using the Honorlock proctoring service. Students are not permitted to work together when completing the exam. There is no time limit for completing the exam, but it must be completed in a single sitting and honorlock will be recording the entire testing session. The midterm exam is available for 24 hours beginning Friday, October 23. Students will not be able to view their responses until Saturday, October 24.

Comprehensive Final Exam – The final exam will consist of 100 multiple-choice questions (6-7 from each of the 15 course modules), each worth 1 point. Students will complete the exam online using the Honorlock proctoring service. Students are not permitted to work together when completing the exam. There is no time limit for completing the exam, but it must be completed in a single sitting and honorlock will be recording the entire testing session. The final exam is available for 24 hours beginning Monday, December 14. Students will not be able to view their responses until Tuesday, December 15.

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 and final project. Final Grades will be rounded up at $\geq .5$ 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

WEEKLY COURSE SCHEDULE:

Week	Dates	Topic
1	8/31 – 9/4	Introduction to Sports Nutrition
2	9/7 – 9/11	Nutrients: Ingestion to Energy Metabolism
3	9/14 – 9/18	Carbohydrates
4	9/21 – 9/25	Fats
5	9/28 – 10/2	Proteins
6	10/5 – 10/9	Vitamins
7	10/12 – 10/16	Minerals
8	10/19 – 10/23	Water Midterm Exam 10/23
9	10/26 – 10/30	Nutritional Ergogenics
10	11/2 – 11/6	Nutritional Counseling Nutrition Supplement Assignment Due 11/8
11	11/9 – 11/13	Weight Management
12	11/16 – 11/20	Endurance/Ultra-endurance Events
13	11/23 – 11/27	Strength/Power Athletes
14	11/30 – 12/4	Team Sport Athletes
15	12/7 – 12/9	Special Considerations in Sports Nutrition Nutrition Flyer Assignment Due 12/9

Final Exam Available for 24-hours beginning 12AM Dec 14th, 2020.

SUCCESS AND STUDY TIPS:

- Complete all assignments. It may seem like there are too many assignments, but each one is designed to take 30min or less and is meant to engage you on a daily basis with the material.
- Read module chapters and research articles carefully
- There are lots of participation points that collectively account for a large percentage of your grade. Performing well on exams is not enough to earn an A in this course, you must participate in the course by completing all assignments.