

SPORTS NUTRITION

APK3163 ~ 3 CREDITS ~ SPRING 2020

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OFFICE HOURS: Office Hours are MW period 2-5 or 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

REQUIRED AND RECOMMENDED MATERIALS:

All required course materials will be provided on the APK3163 Canvas page. These materials include weekly chapter modules written by the instructor and the following research articles (additional articles may be added to weekly modules at the discretion of the instructor):

1. Grout, A., et al. Basic Principles of Sports Nutrition. Curr Nutr Rep (2016) 5:213-222.
2. Position of the Academy of Nutrition and Dietetics, Dietitians of Canada, and the American College of Sports Medicine: Nutrition and Athletic Performance. J Acad Nutr Diet. 2016;116:501-528.

3. Devries, M.C., et al. Leucine, Not Total Protein, Content of a Supplement Is the Primary Determinant of Muscle Protein Anabolic Responses in Healthy Older Women. *J Nutr* 2018;148:1088-1095.
4. Ratamess, N.A., et al. ACSM Position Stand: Progression Models in Resistance Training for Healthy Adults. *Med Sci Sport Ex* 2009:687-708.
5. Kanter, M. High-Quality Carbohydrates and Physical Performance. *Nutr Today* 2018;53(1):35-39.
6. Volek, J.S. Rethinking fat as a fuel for endurance exercise. *Eur J of Sport Sci* 2014;15(1):13-20.
7. Jager, R., et al. International Society of Sports Nutrition Position Stand: protein and exercise. *J. Int Soc Sport Nut* 2017; 14:20.
8. Casa, D., et al. National Athletic Trainers' Association Position Statement: Fluid Replacement for Athletes. *J Ath Train* 2000;35(2):212-224
9. Jeukendrup, A.E. Nutrition for endurance sports: Marathon, triathlon, and road cycling. *J Sport Sci* 2011;29:sup1, S91-S99.
10. Kerksick, C., et al. International Society of Sports Nutrition position stand: Nutrient timing. *J Int Soc Sport Nut* 2008;5:17.
11. Rosenbloom, C.A. and A. Dunaway. Nutrition Recommendations for Masters Athletes. *Clin Sports Med* 2007; 26:91-100.
12. Aragon, A.A., et al. International Society of Sports Nutrition position stand: diets and body composition. *J Int Soc Sport Nut* 2017; 14:16.
13. Jeukendrup, A.E. Periodized Nutrition for Athletes. *Sports Med* 2017; 47:sup1, S51-S63.
14. Buford, T.W., et al. International Society of Sports Nutrition position stand: creatine supplementation and exercise. *J Int Soc Sport Nut* 2007; 4:6.
15. Trexler, E.T., et al. International Society of Sports Nutrition position stand: Beta Alanine. *J Int Soc Sport Nut* 2015; 12:30.

COURSE FORMAT: Course learning materials and course assignments are accessed and completed online through the APK3163 Canvas page. One assignment is due each day of the week. Questions from the weekly module chapters are due on Mondays, Research Article questions are due on Tuesdays, Posts to an online message board called YellowDig are due on Wednesdays, Weekly Food Journals are due on Thursdays, and weekly Module Quizzes are due on Fridays. You will have access to all assignments a minimum of one week prior to their due date. Each Monday, the following week's assignments will become available on Canvas for those students who wish to work

ahead. You may work at your own pace, but you must submit all assignments by their assigned due dates. Module quizzes will be available early along with the rest of the weekly assignments, but the correct answers to the questions are not provided until after their due date.

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

Summarize the steps associated with ventilation and pulmonary circulation

Differentiate the acute and chronic effects of endurance and resistance training on the cardiovascular system

Summarize the basic steps involving the flow of genetic information within a cell

Design an individual aerobic or anaerobic training session

Clarify effects of low carbohydrate diets on exercise performance

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

Reflect on the effects of increasing protein intake

Summarize specific physiologic functions of micronutrients

Specify fluid intake recommendations before, during, and after exercise

Calculate macronutrient recommendations for endurance athletes as well as strength/power athletes

Provide macronutrient and micronutrient recommendations for youth, female, and master's athletes

Differentiate weight loss changes between very low carbohydrate diets and low fat diets

Contrast the benefits and challenges of 4 unique body composition assessments

List the ergogenic benefits of creatine, caffeine, and beta alanine

Organize macronutrient recommendations within a periodized training program

Recommend nutrition strategies to aid in the recovery from musculoskeletal injury

COURSE AND UNIVERSITY POLICIES:

ATTENDANCE POLICY:

Active participation in the course is mandatory. Points assigned to the chapter questions, Quizlet activities, Research Article questions, and Weekly Food Journals 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.

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
Lecture Exams (3)	30 points each = 90 points	45%
Weekly Participation Assignments	300 points	15%
Weekly Module Quizzes (15)	10 points each = 150points	15%
Applied Sports Nutrition Project	50 points	10%
Comprehensive Final (1)	100 pts each = 100 pts	15%

Lecture Exams – Each exam will consist of 30 multiple choice, matching, and short answer questions. Questions will emphasize the application of course material to provided cases. Students are permitted access to course materials or notes during these exams. Exam questions are generated by the course instructor and students should prepare for exams by completing all weekly course readings and assignments. Students will take exams online and will have one week to complete but must do so in a single 60min time limit.

Weekly Participation Assignments – Each week students will have one participation assignment due per day Monday, Tuesday, Wednesday, and Thursday. Questions related to weekly chapter readings are due Monday, Research Article Questions are due Tuesdays, posts to the YellowDig message board are due on Wednesdays, and Food journals with analyses are due on Thursdays. Each participation assignment is worth 5 points and will be available one week prior to the due date at a minimum. YellowDig points are accumulated

Weekly Module Quizzes – A quiz pertaining to each week's module will be assigned each Friday throughout the semester. The 10-12 question quiz will be available for 24 hours and students will have 20min to complete it within that window of time. Module quizzes are open-book and open-note with questions focusing on the practical application of course material.

Applied Sports Nutrition Project – Students will submit a food journal using the Cron-o-meter app or website each Thursday and include a brief discussion of the analysis as it pertains to that week's course topic. At the end of the semester, students will compile the data they have entered to calculate their average macronutrient, micronutrient, and fluid consumption over the course of the semester. Students will discuss how their average nutrient consumption aligns with the recommendations discussed throughout the course and potential changes they may be able to make to their diets to aid in

meeting the recommendations. A written document will be submitted to Canvas for grading and a rubric will be provided within the assignment instructions.

Comprehensive Final – The final exam will consist of 100 multiple-choice questions (6-7 from each of the 15 course modules), each worth 1 point. You will be allowed two hours to complete this exam. The exam will be completed online through the APK3163 Canvas page and will have a 2-hour time limit. The exam will be available for 24-hours on the assigned exam day according to UF’s academic calendar. Students are permitted to use course materials on the exam.

GRADING SCALE: All course assignments are administered and graded within the APK3163 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 __.5 and above. 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	93-100%	4.0
A-	90 – 92.99%	3.7
B+	87.00-89.99%	3.33
B	80.00-86.99%	3.0
C+	77.00-79.99%	2.33
C	70.00-76.99%	2.0
D+	67.00-69.99%	1.33
D	60.00-66.99%	1.0
E	0-59.99%	0

WEEKLY COURSE SCHEDULE:

Week	Dates	Topic
1	(1/6 – 1/10)	Introduction
2	(1/13 – 1/17)	Muscle Physiology and Bioenergetics
3	(1/20 – 1/24)	Cardiovascular and Pulmonary Responses to Exercise Labor Day
4	(1/27 – 1/31)	Molecular Biology Considerations in Exercise and Nutrition
5	(2/3 – 2/7)	Training to Improve Exercise Performance Exam 1 Due 2/7 by 11:59pm
6	(2/10 – 2/14)	Carbohydrates
7	(2/17 – 2/21)	Fat
8	(2/24 – 2/28)	Protein
9	(3/9 – 3/13)	Micronutrients Exam 2 Due 3/13 by 11:59PM
10	(3/16 – 3/20)	Nutrition Considerations for Endurance Athletes
11	(3/23 – 3/27)	Nutrition Considerations for Strength/Power Athletes
12	(3/30 – 4/3)	Contemporary Diet Strategies
13	(4/6 – 4/10)	Nutrition Considerations for Special Populations Exam 3 Due 4/10 by 11:59PM
14	(4/13 – 4/17)	Nutrition Ergogenic Aids / Recovery Nutrition
15	(4/20 – 4/22)	Nutrition Periodization Applied Sports Nutrition Project due 4/22 by 11:59PM

Final Exam Available for 72-hours beginning 12AM April 27, 2020. Students have 2-hours to complete the exam and it must be completed in a single sitting.

SUCCESS AND STUDY TIPS:

- Complete all assignments. It may seem like there are too many assignments, but each one is designed to take 15min 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.