UNIVERSITY OF BRITISH COLUMBIA – SCHOOL OF KINESIOLOGY
COURSE SYLLABUS

Course Code and Title: KIN 432 (formally KIN 489a): Sport Nutrition 2022/23 W2
Instructor Name: Emma McCrudden
Email: emma.mccrudden@ubc.ca
Class will be in person in Biological Sciences (BIOL) – 1000 Tuesdays and Thursday 2 – 3.30pm.
Office hours: Zoom Monday 10.30 – 11.15 starting Jan 16th

TA: Jackie Hannah **Email:** jch01@mail.ubc.ca
Meagan Arbeau **Email:** arbeaum1@student.ubc.ca

WHO DO I CONTACT IF I HAVE QUESTIONS?

Questions should first be directed to your TA and are welcome through email or canvas. Questions through email may take up to 48hrs to receive a response. I do not check email on weekends. Please include your course name (i.e., KIN432) and your full name in the subject line.

COURSE DESCRIPTION

This course focuses on sport nutrition guidelines and will cover the mechanisms of fuel use during exercise, nutritional strategies to support weight change, hydration, and ergogenic aids to meet the needs of the high-performance athlete.

RATIONALE

Elite athletes and the highly active population subject their bodies to given workloads with the desired outcome of achieving improvements in an aspect of performance. Appropriate dietary advice and modification can support them in achieving their goals whilst minimizing risk of illness, injury, over reaching, underperforming or developing disordered eating behaviours. The sport nutrition and health industry is a very lucrative market and as a result unfortunately, there is a wealth of unregulated nutrition information available in the public domain. Upon completion of the course, drawing on knowledge acquired in related undergraduate KIN modules, students will be better equipped to evaluate information in the public domain targeted towards athletes. This course compliments KIN 438 (Skeletal Muscle Physiology), KIN 420 (Prevention of Sports Injuries) and builds on content referenced in KIN 131 and KIN 132 (Systems Physiology I & II), KIN235 (Exercise Physiology) and KIN232 (Nutrition, Physical Activity and Health)

AIMS AND OUTCOMES

Students taking this course will be confident in their understanding of the functions of fundamental macro and key micro nutrients in relation to health and sports performance, macronutrient manipulation in relation to training goals, approaches to assess the function and purpose of ergogenic aids in performance and practical approaches used by professionals working with individuals and teams. Students will also be introduced to various approaches to dietary counselling, nutritional considerations

when exercising in specific environments, managing gastrointestinal distress and the role of nutrition in injury prevention and management. An important part of this course is understanding the scope of practice that Kinesiology students should adhere to when dealing with athletes.

Throughout this course, students will be tasked with converting scientific literature into useful, practical, comprehensible changes. It is important for all humans to have fundamental knowledge in the basics of nutrition for health in order to live a healthy life; this is useful for any occupation. In addition, specific education in the area of nutrition for sport is essential to a number of specific occupations including health promotion, sports nutrition or dietetics, the health and fitness industry, high performance sport, sport medicine and sports rehabilitation.

EDUCATIONAL OUTCOMES

- Understand the factors involved in energy expenditure and energy balance and appropriate macronutrient and whole food selections based on these factors
- Understand the process involved in evaluating ergogenic aids, assessing their safety and efficacy in health and performance
- Understand the sources, fates and functions of macro and micro-nutrients upon ingestion
- Understand why and how macronutrient manipulation is undertaken to achieve a desired performance outcome
- Understand the role of hydration in sports performance
- An introduction to nutrition assessment and nutritional planning with individuals within professional scope of practice
- Develop skills required to work as part of a group

SPECIFIC LEARNING OBJECTIVES

Upon completion of this course students will be able to:

1. Outline the principal functions and appropriate manipulation of macronutrients, in relation to sports performance
2. Evaluate the efficacy and safety of selected ergogenic aids in high performance sport
3. Outline the principal functions of identified vitamins and minerals and consequences of deficiency or excess consumption for athletic performance and health
4. Outline the steps involved in estimating an athlete's energy and macronutrient needs for different sports and training goals e.g., strength, endurance, intermittent, weight category etc.
5. List the principal functions of water in the human body, factors related to fluid loss, consequences of extreme fluid loss strategies in weight category sports and the importance of optimal hydration in sports performance
6. Describe the prevalence of eating disorders in sport and associated risks

7. Describe the mechanisms by which nutrition may support the immune system

CLASS FORMAT

Class will primarily be delivered in person. Occasionally alternate media (i.e., video recording or podcast) will be used in place of a lecture to compliment that week's topic. It is strongly encouraged that as part of group work, groups meet outside of class to complete necessary work in a timely manner with a shared workload.

ATTENDANCE

Although attendance is not formally taken, regular attendance to lectures is strongly encouraged to stay on top of material. Classes will not be recorded therefore you are responsible for all material covered in class and any information given whether in attendance or not. You are also responsible for getting your own notes from class as well as information pertaining to changes in the course outline, readings, assignments, and any tests or exams. Students who are unavoidably absent because of illness or disability should report to their instructors on return to classes and will be required to present a medical note.

TECHNOLOGY IN THE CLASSROOM

Electronic devices such as computers (desktop, laptop) or tablets (ipads, etc.) will be needed for this course. These devices create the temptation to surf the web, check e-mail, etc. so please make sure that you are focused on what is happening in the classroom and engaged in the discussion.

Other distractions should be minimized during class times as well. For example, cell phones should be muted.

CLASS NOTES

Class notes will be made available in PDF file format through the course website. Please keep in mind that these notes provide an overview of what will be covered and do not contain information related to discussions, in-class assignments, or detailed examples, which will be covered in the lecture.

POLICIES AND EXPECTATIONS

UNIVERSITY POLICIES

It is your responsibility to become familiar with the University of British Columbia's Academic Honesty and Plagiarism Policies, as well as the Student Declaration and the consequences of violating these policies.

Academic Accommodation for Students with Disabilities

The University's goal is to ensure fair and consistent treatment of all students, including

students with a disability, in accordance with their distinct needs and in a manner consistent with academic principles. Students with a disability who wish to have an academic accommodation should contact Access and Diversity without delay.

Academic Integrity
All UBC students are expected to behave as honest and responsible members of an academic community. Breach of those expectations or failure to follow the appropriate policies, principles, rules, and guidelines of the University with respect to academic honesty may result in disciplinary action. It is your responsibility to become familiar with the University of British Columbia's Academic Honesty and Plagiarism Policies, as well as the Student Declaration and the consequences of violating these policies.

READINGS AND RESOURCES
Students are responsible for all readings assigned in the course syllabus and during class time. Assigned empirical research and review articles are meant to develop student's understanding and provide examples of concepts discussed in class. Thus, they will not be directly tested, but completion of these readings will enhance knowledge of the course material. Additional readings, information about this course, handouts, and important reminders will be made available on the course shell.

There are no required texts for the course but the following text will be used to support learning throughout the term:
Jeukendrup A., Gleeson M, Sport Nutrition 3rd Edition. Human Kinetics, 2019

The following are recommended to further your knowledge in the area
- Burke L., Deakin V. Clinical Sports Nutrition, 5th Revised edition. McGraw-Hill Education, 2015
- Frayn, K. Metabolic Regulation: A Human Perspective, 3rd Edition. Wiley-Blackwell, 2010
- Hargreaves M., Spriet L. Exercise Metabolism, Human Kinetics; 2 Edition, 2005
- Spano M., Kruskall L., Thomas D.T. *Nutrition for Sport, Exercise and Health*. Champaign, IL: Human Kinetics; 2018

TEXTS AND WEBSITES
Other required reading material (or links) will be posted on the Canvas course website.

EVALUATION

A practice quiz will be available on canvas each week, for one week after which students can no longer access them. These will not be graded but may help you stay on top of the material covered. They will also help familiarize you with the style of questions that will be used in the midterm and final exam.

Assessment 1 (10%)	Participation marks
Details	Intermittent activities throughout the term will be assigned to encourage thought beyond the material taught in class. This will be posted in advance of the lectures.
Due date	Throughout term
Assessment 2 (10%)	Canadian Centre for Ethics in Sport (CCES) online training
Format	Online quiz
Details	Submit certificate to confirm completion
Due Date	Feb 5th
Learning Outcomes	Support students' knowledge of anti-doping rules and regulations
Specific Learning Outcomes	2
Assessment 3 (25%)	**Midterm**
Format	Multiple-choice and short answer questions
Details	Students will be required to answer questions based on lectures and any identified readings
Due Date	Feb 16th
Learning Outcomes	To demonstrate an understanding of the material covered in weeks 1 – 5
Specific Learning Outcomes	1, 2, 3, 4
Assessment 4 (25%)	***Group Work***
Format	a) Groups will submit a 1-page information sheet designed for distribution to the lay population (9%) and a technical document (14%) b) Professionalism Grade: Group members will assign marks to each other based on contributions to the group's submissions (worth 2%).

Details	Groups of 4 – 5 students will identify a topic or choose from a list of options provided by the instructor. The grading rubric is posted on Canvas.
Due Date	Update Feb 9th; final submission March 10th
Learning Outcomes	To demonstrate understanding and the ability to convey information in appropriate written format for the intended audience
Specific Learning Outcomes	1 - 5
Assessment 5 (30%)	**Final Exam**
Format	Multiple choice
Details	Students will be required to answer questions based on lectures and any identified readings and apply critical thinking skills
Due Date	TBD
Learning Outcomes	To demonstrate understanding of the nutritional approaches taken to optimize health and elite sport performance
Specific Learning Outcomes	1 - 7

GRADING

- **Class tests** will not be rescheduled for any reason. If a valid reason (i.e., emergency medical or family emergency, travel for university athletics) is given for missing the test **>24 hours prior**, marks will be added to the final exam. Otherwise, failure to complete the test will result in a mark of zero being awarded.
- Assignments are provided far in advance of the due date. As a result, extensions **will not** be provided for any reason. In case of valid reason (see above) an appropriate medical certificate must be submitted. Late submission penalties will apply and will be clearly outlined the assignment.
- Final: Students absent from final examinations held in the official examination period must request academic concession from their specific advising office.
- Students should retain a copy of all submitted assignments (in case of loss) and should also retain all their marked assignments in case they wish to apply for a Review of Assigned Standing.
- Students have the right to view their marked examinations with their instructors, providing they apply to do so within a month of receiving their final grades. This review is for pedagogic purposes. The examination remains the property of the university.

POLICY ON TEXT-MATCHING SOFTWARE

UBC subscribes to Turnitin, an online system that compares written material with the Web and with other material submitted to its database. Faculty, staff and students can

upload submissions and check for duplication of material in other sources and possible plagiarism.

COPYRIGHT

As the instructor, I hold the copyright to the lectures and all course materials presented in class. Students may not distribute or reproduce the materials for commercial purposes without my express written consent.

TENTATIVE COURSE SCHEDULE

The topics and assigned readings for each class are listed below, although this may be subject to change. Where possible, reasonable notice will be given.

	Topic	*Learning Objective*	*Assessment*
Week 1 Jan 9th	Introduction: Overview of energy systems and the role of nutrition in elite sport	1	
Week 2 Jan 16th	Risks and return: high performance athletes and the supplement industry	1, 2, 5	Group discussion
Week 3 Jan 23rd	How much is too much? The role of protein in high performance sport	1, 3	Group discussion
Week 4 January 30th	Getting the balance right: fat and carbohydrates	1, 3	Group discussion CCES online training due Choose group project topic
Week 5 Feb 6th			
Week 6 Feb 13th	Open Zoom q & a Feb 14th & Midterm Feb 16th		Midterm
Reading week			
Week 7 Feb 27th	Rapid weight loss culture and nutritional strategies for weight category sports	1, 3, 4, 6	Group discussion
Week 8 Mar 6th	Nutritional considerations for endurance athletes	1, 3	Group project due
Week 9 Mar 13th	Nutritional considerations for strength and power athletes and intermittent sports	1, 3	
Week 10 Mar 20th	REDs	6	
Week 11 Mar 27th	Para sport – the role of the sports scientist Meeting the needs of the plant-based athlete	1	Group discussion topic
Week 12 April 3rd	Fit to compete? Athlete health and illness Women in sport: Guest lecturer	2, 5, 7	

Week 13 April 10th	Course wrap up and review	1 – 7	Final exam TBD