



**GSSI University**  
Introduction to Sports Nutrition  
Undergraduate-Level Course  
Syllabus

**Course Description:** The goal of this course is to develop an understanding of the appropriate nutrition practices in relation to exercise or sport training to promote health, energy and adaptations.

**Format:** compatible with online or in-person delivery

**Schedule:** This 15-week course delivers options for 2 lectures and 1 laboratory activity per week

**Textbook Options:**

Sport Nutrition 3<sup>rd</sup> Ed. Jeukendrup & Gleeson, Human Kinetics

Sport Nutrition for Health and Performance 2<sup>nd</sup> Ed. Manore, Meyer & Thompson, Human Kinetics

Williams' Nutrition for Health Fitness and Sport 12<sup>th</sup> Ed. Rawson, Branch, and Stephenson, McGraw Hill  
Practical Sports Nutrition. Burke, Human Kinetics.

**Suggested Pre-Requisite:** General Nutrition course

**Learning Objectives:** After completion of this course, students will:

1. Gain knowledge in general metabolic principles, primarily fuel sources for the working muscle during exercise.
2. Develop knowledge of the macronutrient principles of sports nutrition for different types of athletes based on their goals, specifically related to energy and recovery.
3. Be knowledgeable of hydration guidelines for safety and performance and know how to evaluate and monitor hydration status.
4. Be familiar with the micronutrient needs of athletes which bioactive food components (antioxidants, polyphenols) are beneficial
5. Be able to evaluate dietary supplements for effectiveness and safety
6. Be familiar with the nutritional impact on the brain, bone, connective tissue and immune function as it applies to athletes.
7. Understand the role of nutrition in recovery from injury
8. Be knowledgeable of the techniques to safely and effectively monitor and alter weight and body composition
9. Be able to assess and athlete's current intake and develop a sport nutrition plan based on type of sport and goals
10. Be able to translate sports nutrition research into practical applications for athletes, and be able to effectively communicate verbally, in written form, and using digital platforms
11. Be knowledgeable about special topics in the field of sports nutrition and discuss controversial topic

Week	Type	Topic	Learning Objectives
1	Lecture	Review of General Nutrition Principles	
	Lecture	Energy: Fuel Sources for the Working Muscle	1
	Activity	Diagramming Carbohydrate from Mouth to Muscle	
2	Lecture	Overview of Exercise Metabolism	1
	Lecture	Carbohydrate: Types, Sources & Absorption Related to Exercise	1
	Activity	Assessment of Exercise Metabolism	
3	Lecture	Carbohydrate Recommendations for Athletes	2
	Lecture	Dietary Fat and Utilization During Exercise	2
	Activity	Investigating a Career as a Sports Dietitian	1
4	Lecture	Hot Topic Discussion: Low Carb Diets for Athletes	11
	Lecture	Protein Overview	1, 2
	Activity	Case study: Fatigued Athlete	
5	Lecture	Protein Recommendations for Athletes	2
	Lecture	Hot Topic Discussion: Vegetarian & Vegan Diets for Athletes	11
	Activity	Calculating Protein Needs for an Athlete	2, 11
6	Lecture	Hydration principles	3
	Lecture	Hydration Assessment and Recommendations	3
	Activity	Fluid Balance	3
7	Lecture	Putting it Together: Sport Nutrition Planning	2
	Lecture	Recovery Nutrition: Beyond the Post-Exercise Window	2
	Activity	Fuel Habits Evaluation	9
8	Lecture	Sport Nutrition for Team Sport Athletes	2
	Lecture	Sport Nutrition for Endurance Athletes	2
	Activity	Nutrition Assessment for an Athlete	9
9	Lecture	Vitamins & Minerals: Recommendations for Athletes	4
	Lecture	Antioxidants & Polyphenols	4
	Activity	Develop a Sport Nutrition Plan for an Endurance or Team Sport Athlete	9
10	Lecture	Supplement Safety and Regulation	5
	Lecture	Ergogenic Aids that Work	5
	Activity	Evaluating Supplements	5
11	Lecture	Body Composition	8
	Lecture	Nutrition and Training Plans to Alter Body Composition	8
	Activity	Body Composition	8
12	Lecture	Making Weight for Combat Sports	3, 8
	Lecture	Nutrition for Bone and Connective Tissue	6
	Activity	Case study: "Making Weight" and Recovery for a Weight Class Athlete	
13	Lecture	Nutrition for Female Athletes	11
	Lecture	Nutritional Support for Injury Recovery	7
	Activity	Nutrition & Recovery from ACL Surgery	7
14	Lecture	Nutrition and Immune Health: Considerations for Athletes	6
	Lecture	Nutrition for Cognitive Performance	6
	Activity	Evaluation and Translation of Sports Nutrition Research	10
15	Lecture	GI Function and Athletes	11
	Lecture	Practical Considerations of implementing Sports Nutrition Science	10
	Activity	Communicating Nutrition Information to an Athlete	10