

SUBJECT OUTLINE

Subject Name:

Sports Nutrition

Subject Code:

NMDS311

SECTION 1 – GENERAL INFORMATION

Award/s:	Total course credit points:	Level:
Bachelor of Health Science (Nutritional and Dietetic Medicine)	96	3 rd Year
Bachelor of Health Science (Myotherapy)	96	3 rd Year
Duration: 1 Semester		
Subject Coordinator: Maria Andonopoulos (Sydney campus)		
Subject is: Core	Subject Credit Points: 2	

Student Workload:

No. timetabled hours per week: 3	No. personal study hours per week: 2	Total hours per week: 5
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Delivery Mode:

Face to face	2 hour lecture	1 hour practical
Intensive Delivery	Details:	Summer School - contact hours are delivered over 3 weeks with 2 x 6 hour days delivered per week. Assessment: Practical participation for intensive delivery is assessed in class. Mid-Semester exam is completed in an additional session in week 2 of the intensive. Final case-based exam is conducted in week 6 of summer school.

Full Time

Part Time

Pre-requisites: NMDF121

Co-requisites: Nil

SECTION 2 – ACADEMIC DETAILS

Subject Rationale

This subject introduces students to the specific nutritional requirements for athletes with emphasis placed on the practical application of sports nutrition guidelines and practices. Students will critically evaluate the science and practice of sports nutrition and review the principles and research underpinning current recommendations. Sports-related nutritional deficiencies and eating behaviours will be discussed. Students will explore current and emerging sports nutrition dietary information and apply this learning to the development of dietary programs for optimal nutritional health in specific sports and populations of athletes.

Learning Outcomes

1. Identify the basic nutrients, their source and quantity required to support athletes in the maintenance of optimal performance and health.
2. Demonstrate an understanding of the practices and processes involved in body composition assessment and how this relates to the athlete.
3. Determine appropriate strategies and goals for the dietary and nutritional management of athletes.
4. Determine appropriate strategies and goals for the dietary and nutritional requirements for special athletic populations.
5. Critically evaluate supplement requirements and their appropriateness for athletic performance.
6. Critique and evaluate evidence relevant to sports nutrition and its application.

Assessment Tasks				
Type	Learning Outcomes Assessed	Week Content Delivered	Week Due	Weighting
Participation in weekly tutorial activities and discussion	1-6	1-14	Weekly	15%
Case Study (1200 words)	1,2,3	1-6	7	20%
Group Presentation (in pairs) Nutrition requirement and planning for a chosen sport	1-6	1-12	13	25%
Final case-based exam (2 hours)	3,5,6	1-14	Final Exam Period	40%

Prescribed readings:

- Burke, L., & Deakin, V. (2015). *Clinical sports nutrition* (5th ed.). Sydney, NSW: McGraw Hill.

Recommended readings:

- Burke, L. (2007). *Practical sports nutrition*. Champaign, IL: Human Kinetics Publishers.
- Burke, L., & Cox, G. (2010). *The complete guide to food for sports performance* (3rd ed.). North Sydney, NSW: Allen & Unwin. [ebook available]
- Cardwell, G. (2012). *Gold medal nutrition* (5th ed.). Champaign, IL: Human Kinetics Publishers. [ebook available]

Resources:

- Australian Institute of Sport. (n.d.). *Nutrition*. Retrieved from <http://www.ausport.gov.au/ais/nutrition>
- Nutrition Australia. (n.d.). *Sports Nutrition*. Retrieved from <http://www.nutritionaustralia.org/national/resource/sports-nutrition>
- Sports Dietitians Australia. (n.d.). *Recipes*. Retrieved from <https://www.sportsdietitians.com.au/recipes/>

Subject Content		
Week	Lecture	Practical
1.	Course Introduction Exercise fuel and physiology <ul style="list-style-type: none"> Physiological bases of exercise Exercise metabolism Training adaptation principles Skeletal muscle Exercise intensity on muscle fuel utilisation 	Case study: <ul style="list-style-type: none"> A gym goer versus an endurance athlete. Compare fuel and training needs. Group discussion: <ul style="list-style-type: none"> The importance of training adaptations versus just nutrition

2.	Body Composition and Nutrition Assessment <ul style="list-style-type: none"> • Body composition assessment methods • Application and limitations of methods • Measuring nutritional status 	Practical: <ul style="list-style-type: none"> • Perform body composition assessment demonstration and trial on fellow students Group discussion: <ul style="list-style-type: none"> • Challenges in practice for good quality measures.
3.	Carbohydrates <ul style="list-style-type: none"> • Requirements • Sources and types 	Group discussion: <ul style="list-style-type: none"> • Different needs for different sports
4.	Protein and fats <ul style="list-style-type: none"> • Requirements • Sources and types 	Group discussion: <ul style="list-style-type: none"> • Different needs for different sports
5.	Weight Making Practices in Sports <ul style="list-style-type: none"> • Energy metabolism during exercise • Benefits and risks of weight loss • Challenges and barriers • Weight/fat loss methods 	<ul style="list-style-type: none"> • Video presentations and directed group discussion.
6.	Weight/muscle gain for sport <ul style="list-style-type: none"> • Protein and energy requirements • Challenges and barriers • Weight/muscle gain methods • Skeletal muscle protein metabolism BCAA 	Case study: <ul style="list-style-type: none"> • Make a three day meal plan for an endurance athlete and a power athlete wanting to gain weight Group discussion: <ul style="list-style-type: none"> • Challenges with appetite, cost and access
7.	Diets for special athletic populations <ul style="list-style-type: none"> • Vegetarian diets • Gluten free diets • Diabetes and sports nutrition 	Case study
NON-TEACHING WEEK (note that any make up classes may be scheduled in this week) Semester 1 - This aligns with the week after Easter so it may fall between weeks 6 to 8. Semester 2 - The break week falls between Weeks 7 and 8.		
8.	<ul style="list-style-type: none"> • Disordered eating in athletes • Female athlete triad • Over training syndrome 	Case study
9.	Endurance sports <ul style="list-style-type: none"> • Requirements • Race day nutrition • Training nutrition • Injury nutrition 	Case study: <ul style="list-style-type: none"> • Make a three day meal plan for endurance athlete Group discussion: <p>Common mistakes athletes make</p>
10.	Power and team sports <ul style="list-style-type: none"> • Requirements • Race day nutrition • Training nutrition • Injury nutrition 	Case study: <ul style="list-style-type: none"> • Make a three day meal plan for a power sport and team sport athlete Group discussion: <p>Common mistakes athletes make</p>
11.	Hydration and electrolytes <ul style="list-style-type: none"> • Requirements • Assessment 	Case study: <ul style="list-style-type: none"> • Make a hydration strategy for two different athletes Group discussion:

	<ul style="list-style-type: none"> • Electrolytes • Fatigue • Cramps and Stitches Supplements <ul style="list-style-type: none"> • AIS sport supplement program • AIS anti-doping policy 	<ul style="list-style-type: none"> • Brands and ingredients of options
12.	Supplements <ul style="list-style-type: none"> • How supplements should be used • Deficiency in athletes • Antioxidants and vitamins • Key evidence based supplements and doses • Common supplements • Injury supplements • Supplements for junior athletes 	Case study: <ul style="list-style-type: none"> • Make a supplement strategy for two different athletes Group discussion: <ul style="list-style-type: none"> • Brands and ingredients of options • The use of stimulants and protein powders among junior athletes
13.	Travelling athlete	Case studies
14.	Study Week/Practical Exam Week 1 (note that make-up classes may be scheduled in this week).	
15.	Study Week/Practical Exam Week 2 (note that make-up classes may be scheduled in this week).	
16.	Final Exam Week 1 Please refer to the Exam Timetable for your local campus for the exact day and time of exam.	
17.	Final Exam Week 2 Please refer to the Exam Timetable for your local campus for the exact day and time of exam.	