Subject Name: Sports Nutrition

SECTION 1 - GENERAL INFORMATION

Award/s: Total Course Credit Points: Level:
- Bachelor of Health Science (Myotherapy) 96 3rd Year
- Bachelor of Health Science (Nutritional and Dietetic Medicine) 96 3rd Year

Duration: 1 Semester

Subject Coordinator: Jaime Doumas (Melbourne campus)

Subject is: Core

Subject Credit Points: 2

Student Workload:

<table>
<thead>
<tr>
<th>No. timetabled hours per week:</th>
<th>No. personal study hours per week:</th>
<th>Total hours per week:</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2</td>
<td>5</td>
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</table>

Delivery Mode:

Face to Face (On campus)
- 1 x 2 hour lectures
- 1 x 1 hour tutorial / practical

Intensive Delivery (Summer School)
- Contact hours are delivered over 5 weeks with 2 x 4 hour days delivered per week
- Content: Combination lecture and tutorial activities
- Assessment: Case Study - Week 3; Report - Week 5; Final Written Exam - Week 6

Full Time

Part Time

Pre-requisites: NMDF121

Co-requisites: Nil

Special Resource Requirements:

Two bath-sheet sized towels per student (Clinic towels must not be used)

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. Highlight the basic nutrients, their source and quantity required to support athletes in the maintenance of optimal performance and health.
2. Consider the practices and processes involved in body composition assessment and how this relates to the athlete.
3. Formulate appropriate strategies and goals for the dietary and nutritional management of athletes, including special athletic populations.
4. Critically evaluate current evidence-based literature relating to supplement requirements and their appropriate application for athletic performance.

Assessment Tasks

<table>
<thead>
<tr>
<th>Type</th>
<th>Learning Outcomes Assessed</th>
<th>Session Content Delivered</th>
<th>Due</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Study</td>
<td>1-3</td>
<td>1-6</td>
<td>Week 7</td>
<td>30%</td>
</tr>
<tr>
<td>(1200 words)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Report</td>
<td>1-4</td>
<td>1-12</td>
<td>Week 13</td>
<td>30%</td>
</tr>
<tr>
<td>(1200 words)</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Final Written Exam</td>
<td>1-3</td>
<td>1-13</td>
<td>Final Examination Period</td>
<td>40%</td>
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</table>

All written assessments and online quizzes are due at 11:55 p.m. and submitted through the LMS.

Prescribed Readings:

Recommended Readings:

Resources
<table>
<thead>
<tr>
<th>Week</th>
<th>Lectures</th>
<th>Tutorials / Practicals</th>
</tr>
</thead>
</table>
| 1.   | **Introduction** (Subject Outline / Subject Aims / Assessment / Teaching Resources)  
**Exercise fuel and physiology**  
- Physiological bases of exercise  
- Exercise metabolism  
- Training adaptation principles  
- Skeletal muscle  
- Exercise intensity on muscle fuel utilisation  
   | Activities are developed to allow the students to explore relevant concepts, expand on ideas and have peer and lecturer interaction. Activities also allow for formative assessment and feedback  
- Case study  
  - A gym goer versus an endurance athlete: Compare fuel and training needs  
- Group discussion  
  - The importance of training adaptations versus just nutrition | |
| 2.   | **Body Composition and Nutrition Assessment**  
- Body composition assessment methods  
- Application and limitations of methods  
- Measuring nutritional status  
   | Practical  
  - Perform body composition assessment demonstration and trial on fellow students  
- Group discussion  
  - Challenges in practice for good quality measures | |
| 3.   | **Carbohydrates**  
- Requirements  
- Sources and types  
   | Group discussion  
  - Different needs for different sports | |
| 4.   | **Protein and Fats**  
- Requirements  
- Sources and types  
   | Group discussion  
  - Different needs for different sports | |
| 5.   | **Endurance Sports**  
- Requirements  
- Race day nutrition  
- Training nutrition  
- Injury nutrition  
   | Case study  
  - Make a three day meal plan for endurance athlete  
- Group discussion  
  - Common mistakes athletes make | |
| 6.   | **Hydration and Electrolytes**  
- Requirements  
- Assessment  
- Electrolytes  
- Fatigue  
- Cramps and stitches  
- Supplements  
- Australian Institute of Sport (AIS) sport supplement program  
- AIS anti-doping policy  
   | Case study  
  - Make a hydration strategy for two different athletes  
- Group discussion  
  - Brands and ingredients of options | |
| 7.   | **Weight / Muscle Gain for Sport**  
- Protein and energy requirements  
- Challenges and barriers  
- Weight/muscle gain methods  
- Skeletal muscle protein metabolism BCAA  
   | Case study  
  - Make a three day meal plan for an endurance athlete and a power athlete wanting to gain weight  
- Group discussion  
  - Challenges with appetite, cost and access | |

**NON-TEACHING WEEK** (note that 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 & Online students** - The non-teaching week falls between Weeks 7 and 8
### 8. Weight Making Practices in Sports
- Energy metabolism during exercise
- Benefits and risks of weight loss
- Challenges and barriers
- Weight / fat loss methods

### Video presentations
- Group discussion

### 9. Diets for Special Athletic Populations - Part 1
- Vegetarian diets
- Gluten free diets
- Diabetes and sports nutrition

### Case study

### 10. Power and Team Sports
- Requirements
- Race day nutrition
- Training nutrition
- Injury nutrition

### Case study
- Make a three day meal plan for a power sport and team sport athlete
- Group discussion
- Common mistakes athletes make

### 11. Diets for Special Athletic Populations - Part 2
- Disordered eating in athletes
- Female athlete triad
- Over training syndrome

### Case study

### 12. Supplements
- 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
- Make a supplement strategy for two different athletes
- Group discussion
- Brands and ingredients of options
- The use of stimulants and protein powders among junior athletes

### 13. Travelling Athlete
- Preparing for travel
- Resources for athletes
- Catering for athletes

### Case Study
- Create a travel plan for an athlete travelling overseas to compete in an international event

### 14. Non-Teaching Week / Practical Examination Week 1
Note that make-up classes may be scheduled in this week

### 15. Non-Teaching Week / Practical Examination Week 2
Note that make-up classes may be scheduled in this week

### 16. Final Examination Week 1
Please refer to the Examination Timetable for your local campus for the exact day and time of exam

### 17. Final Examination Week 2
Please refer to the Examination Timetable for your local campus for the exact day and time of exam