LONDON SOUTH BANK UNIVERSITY

unit guide

Nutrition and the Athlete

SSS-3-991

Faculty of Engineering Science
and the Built Environment

2008/2009

become what you want to be

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1.0 UNIT DETAILS

Unit Title:	Nutrition and the Athlete
Unit Level:	Level 3
Unit Reference Number:	SSS-3-991
Credit Value:	1
Student Study Hours:	150
Contact Hours:	30
Private Study Hours:	120
Pre-requisite Learning (If applicable):	Nutrition and Metabolism in Sport
Co-requisite Units (If applicable):	N/a
Course(s):	BSc (Hons.) Sport and Exercise Science
Year and Semester	2008.2009 Semester 1
Unit Coordinator:	Mike Hibbs (acting Unit Coordinator)
UC Contact Details (Tel, Email, Room)	hibbsm@lsbu.ac.uk, Room J214
Teaching Team & Contact Details	Adrian Slee
(If applicable):	Katie Oliver
Subject Area:	SAS4 Human and Exercise Science
Summary of Assessment Method:	100% Coursework The pass mark for this unit is 40%.

This guide is designed to help you structure your learning by providing an indicative structure and content for the unit. It is a guide and not a definitive statement of what you will be taught. We will try to follow this published schedule as far as possible, but there may be some variation as the unit develops and as we try to match the pace and content of our teaching to student needs.

2.0 SHORT DESCRIPTION

This unit covers specific nutritional issues relevant to sport and fitness including dietary strategies for training, competition (both for the elite and recreational athlete) as well as nutritional strategies during injury and recovery. Other aspects of the unit include the nutritional needs of vulnerable groups e.g. children, adolescents, women. Nutritional strategies aimed at weight control and contentious issues surrounding the use of supplements and ergogenic aids are also covered.

3.0 AIMS OF THE UNIT

The aims of this unit are:

1. To provide the knowledge and skills to translate the principles of nutrition to improve performance, into foods and eating patterns appropriate to the lifestyle of athletes.

2. To provide knowledge of the composition, usefulness / harmfulness of sports foods, drinks, supplements and nutrients as ergogenic aids.

4.0 LEARNING OUTCOMES

4.1 Knowledge and Understanding

Following completion of the unit the student should be able to:

1 Evaluate the nutritional needs of athletes in training and in competition

2 Analyse the problems of weight control and “making weight”

3 Evaluate the nutritional needs of particular groups

4 Critically appraise available sports foods, supplements and nutrients as ergogenic aids

4.2 Intellectual Skills

This unit will develop the students’ ability to perform critical analysis. Their verbal communication skills will be enhanced by group work and the assessment will assist in the development of written communication skills and in the use of information technology.

4.3 Practical Skills

This unit does not have a practical component. Nevertheless a considerable amount of the theory covered within this unit can be applied practically and this is demonstrated within the classroom sessions.

4.4 Transferable Skills

Written communication skills, use of information technology, library databases, group work.

5.0 ASSESSMENT OF THE UNIT

This unit is assessed by 100% coursework consisting of an assignment of **no more than 3,000 words** on the following topic area.

With reference to **ONE** of the following case studies critically evaluate the special needs of the individual (*Learning outcome 1,3)* making particular reference to their nutrient intake and any relevant supplementation (*Learning outcome 4*). Within your answer refer to the problems of 'weight control' (*Learning outcome 2*).

Case studies:

A) A young female gymnast in preparation for competition is concerned about making her weight class and not gaining any weight. She trains daily in a competitive environment. She eats a very low fat diet as recommended by her training coach and tries to avoid eating meat. She has been complaining recently of a lack of energy, tiredness, skin problems, paleness and irregular menses. She also gets ill quite often. Age: 16 years, Height: 1.62m, Body Mass: 48kg, %Body Fat: 7%.

B) A mature recreational rower who used to compete at a professional level has noticed over the past few years that he has put on weight especially around his waist. He doesn't train as often as he used to (5-6 times week down now to 1-3), however he is determined to get back into consistent training patterns. He has always eaten a high carbohydrate diet, as was recommended. He has complained of a lack of energy. He went to see his GP doctor who tested his blood glucose, insulin and blood lipids. He was told that he has raised blood glucose, hyperinsulinemia, raised LDL-cholesterol and reduced HDL-cholesterol. Age: 63, Height: 1.86m, Body Mass: 102kg, %Body Fat: 32%, Waist Circumference: 100cm, Hip Circumference: 101cm.

C) A young male rugby player in training for a university team has been told by his coach he needs to put on about 10kg in weight to gain an extra power advantage. The conventional advice given has been that he should eat as many meals/calories as possible from all types of food. He has questioned this advice and is concerned about his health as he is not as lean as he would like to be. There is also a history of type 2 diabetes within his family. He trains regularly (2-3 times per week) and has decided to do extra strength/weight training 2-3 times per week in an effort to gain muscle mass. Age: 20, Height: 1.94m, Body Mass: 110kg, %Body Fat: 20%, Waist Circumference: 88cm, Hip Circumference: 90cm.

Students should ensure that correct essay writing techniques are employed and that the work draws on relevant literature. This literature should be referenced in the correct manner (use Journal of Sports Sciences format). Detailed information is contained in the Course Guide. Additional information can also be found in the LSBU Study Skills Guide.

All work should be word processed with 1.5 or 2.0 spacing.
Failure to acknowledge the work of others will be regarded as plagiarism, as will the direct copying of text from published sources. Students suspected of plagiarism will be required to submit an electronic version of their work for analysis by the plagiarism-detecting software, TurnitinUK
TurnitinUK is available on the unit Blackboard site for students to use prior to submission of work. A help sheet for students explaining how to use TurnitinUK Assignments is available from https://www.lsbu.ac.uk/bb/downloads/TurnitinBBstudent.pdf

The submission date for the assignment is Friday 6th February 2009. The assignment should be handed into the Faculty Office, T313 for the attention of the Unit Leader, MIKE HIBBS.

Students must keep a copy of all course work submitted and must obtain a receipt when handing work in.

UNSATISFACTORY ATTENDANCE IS A VIOLATION OF THE DEPARTMENTAL POLICY AND WILL BE DEALT WITH BY THE EXAMINATION BOARD - THIS APPLIES TO ALL LECTURES.

MARKING SCHEME

	NUTRITION AND THE ATHLETE ASSIGNMENT				
Marking Scheme	5	4	3	2	1
General: 5%					
Overall Presentation					
Proof reading					
Figures / Tables					
Introduction: 5%					
Clear statement of aim					
Definition of terms (where necessary)					
Introduction to the topic					
Main Body: 70%					
Critique (*Learning outcome 4*)					
Particular reference to nutrient intake and supplementation (*Learning outcome 4*)					
Problems of 'weight control' (*Learning outcome 2*)					
Calculation / evaluation of nutritional needs of individual *(Learning outcome 1,3)*					
Conclusion: 10%					
Draws conclusions from work presented / relevant					
References: 10%					
Relevant literature					
Cross referencing - text ⇔ list					
Journal of Sports Sciences format					
Scale: 5=excellent, 4=good, 3= average, 2= poor, 1= very poor					

AWARD OF MARKS

As a general guide, marks are awarded for the following levels of achievement:

>70% Comprehensive and competent answer. Well communicated. Evidence of additional reading and original thinking. Good analysis of the problem and logical solutions. Factually correct.

60 - 70 % Overall competent and logical insight into the problem. Largely factually correct. Coverage not extensive but original thinking.

40 - 60% Generally competent. Some factual errors. Overall understanding but lack of convincing answer

below 40% A lack of understanding of the problem. Superficial answer. Factual errors. Poor communication skills.

Criteria used in assessing essay assignments and essay-type examination questions
Guidance only.

A more specific guide to the assessment of essay assignments and essay-type examination questions is given below. These criteria are intended to provide a benchmark against which marks allocated to an essay-type question can be compared, in order to see if they give a reasonable assessment of the quality of an answer.

1st Class (70-100%)
An excellent answer displaying complete understanding of the question. It presents all, or virtually all, the relevant 'given' information. Furthermore it will normally, where relevant, contain significant **'non-given'** (not presented within the taught unit programme) information displaying evidence of wider reading and an ability to synthesise information from diverse sources. The answer will be logically organised and well presented, it should be substantially error-free. It may well, if appropriate, show originality of thought or approach and will display insight.

2(i) - Upper 2nd Class (60-69%)
A very good answer showing a sound understanding of the question. It will contain all, or nearly all, the relevant 'given' information. It should normally display evidence of wider reading or contain 'non-given' information. It will have a low error level and will not contain any serious errors. The answer should be logically presented. Better answers in this category may display originality or 'synthetic' ability.

2(ii) - Lower 2nd Class (50-59%)
A sound satisfactory answer, containing most of the 'given' information but will probably display little or no evidence of wider reading or originality. It will normally have a low error level. Some answers in this category may display some attributes of a 2(i) answer but with a higher level of error, however, and less logical presentation.
3rd Class (40-49%)
Although displaying some understanding of the question the answer will be incomplete and show a poor appreciation of the subject. It will contain relevant 'given' information but may have a high level of errors or irrelevancies. Important points will not be addressed. Presentation may be poor.

FAIL (<40%)
An inadequate answer lacking substance and understanding, it may not represent a serious attempt. Where the question has been understood the answer will be very limited and probably contain many errors. Where the student has answered the wrong question, marks may still be given if relevant information is presented.

ACADEMIC MISCONDUCT

Students are referred to the University's Student Handbook which summarises the Universities standpoint on academic misconduct. The full version of the regulations is available from the registry (situated in Technopark building).

Sections taken from academic misconduct section of the student handbook:
Academic misconduct is defined as 'any attempt to gain unfair advantage in assessment, or to help another student gain unfair advantage, by deception or fraudulent means.'

Some examples of academic misconduct:
Assisting another student to gain unfair advantage – for example by allowing another student to copy your work, or use an electronic copy of your work.

Syndication: The submission of pieces of work, which are substantially similar by two or more students. This may apply within the same institution or in a number of institutions, either at the same time or different times.

Plagiarism: To 'take and use another person's thoughts, writings, inventions as one's own'. Representing another person's work as your own, without acknowledging the source. Examples of this are provided in your student handbook (10.12d).

Collusion: Representing as your own piece of work which two or more students have undertaken together, without permission to do so.

Bribery: Offering payment or other inducement to another person in order to gain improper advantage in assessment or to falsify the result of assessment.

Commission: Commissioning another person to undertake all or part of an assignment presented as your own work, or knowingly undertaking work for another student to present his or her own work.

N.B. Students are referred to the text below for guidance on Journal of Sports Sciences' format.

Journal of Sports Sciences Format for References

The Journal of Sports Sciences uses one of several variations of the Harvard system. The following examples should make clear the most important points. References in the text are cited as follows: Smith (1985) . . . or (Brown and Green, 1996) . . . or, if there are more than two authors, as Jones *et al*. (1993) . . . or (Jones *et al*., 1993).

Citations of different publications by the same author(s) are differentiated as Green (1993a) . . . (Brown *et al*., 1995b); the a, b, c, etc., are normally in order of citation in the text. Multiple citations are listed in ascending chronological order.

Within a year, they are organized in alphabetical sequence of the first author. Examples: Smith (1995), Brown and Green (1996), Jones *et al*. (1996); or (Smith,1995; Brown and Green, 1996; Jones *et al*., 1996). The following should make clear how multiple publications by the same authors are treated in such lists: Smith (1991, 1995), Brown and Green (1992, 1993), Jones *et al*. (1993, 1996a,b); or (Smith, 1991, 1995; Brown and Green, 1992, 1993; Jones *et al*., 1993, l996a,b).

A list of all cited references should be collected at the end of the paper in alphabetical order by, in the first instant, the first author's surname. Where the name of the first author appears more than once, the order is determined by: first, the number of co-authors (zero, one, or more than one); secondly, for one co-author, the first co-author's surname then the year; for two or more co-authors, year then order as dictated by the use of 1990a,b,c (for example) in the citations.

The following is an example of how references would be ordered in the reference list: Brown (1980), Brown (1990), Brown and Jones (1977), Brown and Smith (1973). Brown and Smith (1975), Brown, Smith and Jones (1990a), Brown, Jones, Smith, Jones and Brown (1990b), Brown, Jones and Smith (1990c). Note that the last three examples would all have been cited as Brown *et al*. in the text, with the a, b and c relating to the order of citation. The names and initials of all authors should be given in the list of references. The style should follow the examples below:

Books

Zatsiorsky, V.M. (1995). *Science and Practice of Strength Training*. Champaign, IL: Human Kinetics.

Journals (Papers or Abstracts)

Elliott, B., Marshall, R. and Noffal, G. (1996). The role of upper limb segment rotations in the development of racket-head speed in the squash forehand. *Journal of Sports Sciences*, **14**, 159–165.

Chapters in Books

Stephenson, D.G., Lamb, G.D., Stephenson, G.M.M. and Fryer, M.W (1996). Mechanisms of excitation–contraction coupling relevant to skeletal muscle fatigue. In *Fatigue: Neural and Muscular Mechanisms* (edited by S.C. Gandavia, R.M. Enoka, A.J. McManus, D.G. Stuart and C.K.Thomas), pp. 45–56. New York: Plenum Press.

Chapters in Published Books of Conference Proceedings or Abstracts

Howe, B.L. and Bell, G.J. (1986). Mood states and motivation of triathletes. In *Sports Science: Proceedings of the VII Commonwealth and International Conference on Sport, Physical Education, Dance. Recreation and Health* (edited by J. Watkins, T. Reilly and L. Burwitz), pp. 273–278. London: E & FN Spon.

The issue number of a journal should be included only to avoid confusion, as when for example the pagination starts from 1 in each issue rather than being continuous across a volume; in such cases use **16(4)**, etc. Authors should seek to minimize references to non-published material, including collections of conference abstracts that are not generally available through libraries or electronic databases. When it is absolutely necessary to reference unpublished material, this must be done within the citation in the body of the paper, for example (Bartlett and Bremble, unpublished data); the material must not be included in the list of references. Secondary references should be avoided if at all possible; if not, the reference should be listed as, for example: Full reference (cited in Zatsiorsky, V.M., 1995, *Science and Practice of Strength Training*. Champaign, IL: Human Kinetics).

Internet pages

Sokal, A (22.9.98). Papers by Alan Sokal.
http://www.physics.nyu.edu/faculty/sokal/index.html#papers. New York: New York University

The Guardian. (22.9.98). Leicester City.
http://football.guardian.co.uk/football/clubs/clubs.html. London. (No need to repeat the "institution" (The Guardian here) if it is the same as the publishers of the web pages.

Biomechanics Research Laboratory, Johns Hopkins University. (23.9.98).
Pre-operative planning of femoral and pelvic osteotomies.
http://www.biomech.jhu.edu/projects/vr/fempel.html. Baltimore.

Give the author of the page or, if there is no obvious author, the section and institution/organisation (e.g. Nutrition Research Centre, London South Bank University). For the Internet, both the material and the locations can change. It is therefore useful to quote the date on which material was viewed or downloaded. If the web pages are at a site which is not owned by the organisation/institution (i.e. if they are located on "someone else's" server), give the name of the organisation/institution running the site is the "publisher". Because of the fluidity of the Internet, you are advised to include photocopies of Internet text etc. with your assignments.

6.0 INTRODUCTION TO STUDYING THE UNIT

6.1 Overview of the Main Content

		Monday	Thursday
7	week beginning 3/11	Introduction / Energy Requirements of the Athlete Adrian Slee	Carbohydrate Requirements Katie Oliver
8	week beginning 10/11	Protein & Amino acid Requirements Adrian Slee	Vitamins, Minerals & Exercise Katie Oliver
9	week beginning 17/11	Fats & Exercise Adrian Slee	Fluids & Exercise Katie Oliver
10	week beginning 24/11	Weight Control Strategies Adrian Slee	
11	week beginning 1/12	Special Populations: Female, Children, Ageing Adrian Slee	
12	week beginning 8/12	Nutritional Ergogenic Aids Adrian Slee	EBF revision class Steve Hunter, John Seeley
Monday January 19th 2009		Nut & Athlete Assignment support session Adrian Slee	

6.2 Overview of Types of Classes

This unit will be presented in the form of one 3-hour classroom sessions.

Classroom contact will employ a number of teaching and learning strategies as a series of lectures, group work and seminars with a strong base of student centred learning. Classroom contact hours account for only 30 hours, students are therefore expected to contribute a minimum of 120 hours self-managed private study.

Assessment of this unit is entirely based on coursework and will be aimed at ascertaining the students attainment of the learning outcomes specified above.
Students should attend all lectures to successfully pass the unit. Students must be punctual.

6.3 Importance of Student Self-Managed Learning Time

It is important for you to plan your work schedule in advance (use this unit guide to help). Use time efficiently. Make effective notes (Use key words, flow charts, diagrams and personal short-hand). Review material (Re-read lecture notes following each session; this will aid learning). Carry out directed reading. Remember, you must make an effort! Lectures are there for overview and guidelines. Learning must come from your own reading. Private study: you are expected to contribute to your learning by participating in the designated private study time associated with this unit. You will not pass the unit by simply attending sessions. Ask for help (don't be afraid to ask!!)

6.4 Employability

This unit provides those students who want to work in a prescribing environment, within the area of sports science with the understanding of the specific nutritional requirements of athletes and provides them with the ability to adapt their prescriptive advice based on case studies, which are set as an assessment for this unit.

6.5 End of unit review – your feedback is valuable

It is University policy to obtain student feedback at the end of each unit. This is carried out using a standard form that should be completed and returned in a way that should maintain your anonymity. The results of the tick-box responses and any additional commentary are presented and discussed at the Subject Area Review & Planning Meetings that are held twice per year. Should it be required, members of staff at these meetings agree to modify aspects of unit delivery and assessment for the next time that the unit will be presented (usually for the following year).

THE PROGRAMME OF TEACHING, LEARNING AND ASSESSMENT

Details relating to attendance at teaching sessions are located in the Course Guide. The given reading for each lecture is in support of the lecture title, ideally you should try to do some of this in preparation for the lecture.

Lecture 1 **Introduction to the unit / Overview.**
Energy Requirements of Athletes

Lecture Content:
Overview of the unit. Overview of topics to be covered. Factors influencing energy requirements. Estimation of energy expenditure of athletes. Calculation of energy requirements.

Recommended reading:
Nutrition and the Athlete Unit Guide

Brouns, F., Cargill, C. (2002): *Essentials of Sports Nutrition*. John Wiley and sons, Ltd., Chichester, Chapter 12, Pp. 167-182.

Manore, M. and Thompson, J. (2000): *Sport Nutrition for Health and performance*. Human Kinetics, Leeds, Chapter 1, Pp. 1-19.

Burke, L.M. and Deakin, V. (2006): Energy Requirements of the Athlete: Assessment and Evidence of Energy Efficiency. In *Clinical Sports Nutrition*. 3rd ed. McGraw-Hill Australia Pty Ltd. Chapter 5. Pp. 113-130

Maughan, R.J., Burke, L.M. and Coyle E.F. (2003): Energy Balance and Body Composition in Sports and Exercise. In *Food, Nutrition and Sports Performance II.* The International Olympic Committee Consensus on Sports Nutrition. Routledge, London. Chapter 1, Pp. 1-23.

Manore, M. and Thompson, J. (2000): *Sport Nutrition for Health and performance*. Human Kinetics, Leeds. Chapter 5.

Monotoye, H.J., Kemper, H.C.G., Saris, W.H.M., Washburn, R.A. (1996): Measuring Physical Activity and Energy Expenditure. Human Kinetics. Chapters 1,5 & 8.

Lecture 2

Carbohydrate requirements

Lecture Content:
The role and requirements of carbohydrate during training and in preparation for competition. Investigating the type, timing and quantity of carbohydrate and its subsequent influence on training and performance. The role and requirements of carbohydrate during competition and recovery. Investigating the quantity, type and timing carbohydrate administration

Recommended reading:
Burke, L.M. and Deakin, V. (2006): *Clinical Sports Nutrition*. 3rd ed. McGraw-Hill Australia Pty Ltd. Chapter 12 and 13

Maughan, R.J., Burke, L.M. and Coyle E.F. (2003): *Food, Nutrition and Sports Performance II.* The International Olympic Committee Consensus on Sports Nutrition. Routledge, London. Chapters 2, 3 and 4

Manore, M. and Thompson, J. (2000): *Sport Nutrition for Health and performance*. Human Kinetics, Leeds. Chapter 2, Pp. 21-57.

Maughan, R.J. and Murray, R. (2001): *Sports Drinks: Basic Science and practical aspects.* CRC Press, Andover.

Burke, L.M. and Deakin, V. (2006): *Clinical Sports Nutrition*. 3rd ed. McGraw-Hill Australia Pty Ltd. Chapter 13 and 14

Maughan, R.J., Burke, L.M. and Coyle E.F. (2003): *Food, Nutrition and Sports Performance II.* The International Olympic Committee Consensus on Sports Nutrition. Routledge, London. Chapters 2 and 5

Burke, L.M., Kiens, B., Ivy, J.L. (2004). Carbohydrates and fat for training and recovery. *Journal of Sports Sciences*, **22**, 15-30.

Manore, M. and Thompson, J. (2000): *Sport Nutrition for Health and performance*. Human Kinetics, Leeds. Chapter 2, Pp.21-57.

Lecture 3

Protein and Amino Acid Requirements

Lecture Content:
Protein and amino acid requirements during training and recovery: factors that affect protein needs; diet, type of exercise, frequency of exercise, duration, training, and gender.

Recommended Reading:
Burke, L.M. and Deakin, V. (2006): *Clinical Sports Nutrition*. 3rd ed. McGraw-Hill Australia Pty Ltd. Chapter 4

Maughan, R.J., Burke, L.M. and Coyle E.F. (2003): *Food, Nutrition and Sports Performance II.* The International Olympic Committee Consensus on Sports Nutrition. Routledge, London. Chapters 6

Bouchard, C., Shephard, R.J., Stephens, T. (Eds) (1994). Physical Activity Fitness and Health. International Proceedings and Consensus Statement. Human Kinetics. Chapter 4. Rennie, M.J., Bowtell, J.L., Millward, D.J. Physical Activity and Protein Metabolism

Brouns, F., Cargill, C. (2002): *Essentials of Sports Nutrition*. John Wiley and sons, Ltd., Chichester, Chapter 4: Protein, Pp. 51-60.

Manore, M. and Thompson, J. (2000): *Sport Nutrition for Health and performance*. Human Kinetics, Leeds. Chapter 4.

Lecture 4 Fluids and Exercise

Lecture Content:

Fluid and electrolyte loss and replacement during and post-exercise. Availability of fluids / gastric emptying. Effects of dehydration / hypohydration on performance.

Recommended Reading:
Burke, L.M. and Deakin, V. (2006): *Clinical Sports Nutrition*. 3rd ed. McGraw-Hill Australia Pty Ltd. Chapter 13

Coyle, E.F. (2004) Fluid and Fuel intake during exercise. *Journal of sports sciences*, **22**, 39-55.

Maughan, R.J., Burke, L.M. and Coyle E.F. (2003): *Food, Nutrition and Sports Performance II.* The International Olympic Committee Consensus on Sports Nutrition. Routledge, London. Chapters 4 and 5

Maughan, R.J. and Murray, R. (2001): *Sports Drinks: Basic Science and practical aspects.* CRC Press, Andover.

Manore, M. and Thompson, J. (2000): *Sport Nutrition for Health and performance*. Human Kinetics, Leeds. Chapter 8, Pp. 217-243.

Lecture 5 Dietary Fat and Exercise

Lecture Content:
Utilisation of the fat depots, triglyceride stores and adipose tissue. Adaptations as a result of training.

Recommended Reading:
Burke, L.M. and Deakin, V. (2006): *Clinical Sports Nutrition*. 3rd ed. McGraw-Hill Australia Pty Ltd. Chapter 15

Maughan, R.J., Burke, L.M. and Coyle E.F. (2003): *Food, Nutrition and Sports Performance II.* The International Olympic Committee Consensus on Sports Nutrition. Routledge, London. Chapters 3 and 10

Brouns, F., Cargill, C. (2002): *Essentials of Sports Nutrition*. John Wiley and sons, Ltd., Chichester, Chapter 3: Fat, Pp. 31-49.

Manore, M. and Thompson, J. (2000): *Sport Nutrition for Health and performance*. Human Kinetics, Leeds. Chapter 3.

Lecture 6 Vitamins, Minerals and Exercise

Lecture Content:
Vitamins, minerals and exercise performance. Supplementation practices. Antioxidant nutrients and exercise.

Recommended Reading:
Burke, L.M. and Deakin, V. (2006): *Clinical Sports Nutrition*. 3rd ed. McGraw-Hill Australia Pty Ltd. Chapter 11

Maughan, R.J., Burke, L.M. and Coyle E.F. (2003): *Food, Nutrition and Sports Performance II.* The International Olympic Committee Consensus on Sports Nutrition. Routledge, London. Chapters 7

Brouns, F., Cargill, C. (2002): *Essentials of Sports Nutrition*. John Wiley and sons, Ltd., Chichester, Chapter 6: Minerals, Pp. 98; Chapter 7: Trace elements, Pp. 99-105; Chapter 8: Vitamins: Pp. 107-119; Chapter 9: Antioxidants and exercise induced free radicals, Pp. 122-130.

Lecture 7 Dietary Strategies for Managing Body Composition and Weight

Lecture Content:
Sports that make weight. Common practices. Safe practice. Weight gain and weight loss. Making weight for strength and power. Disordered eating patterns in sport.

Recommended Reading:
Burke, L.M. and Deakin, V. (2006): *Clinical Sports Nutrition*. 3rd ed. McGraw-Hill Australia Pty Ltd. Chapters 6 and 7

Maughan, R.J., Burke, L.M. and Coyle E.F. (2003): *Food, Nutrition and Sports Performance II.* The International Olympic Committee Consensus on Sports Nutrition. Routledge, London. Chapters 1

Brouns, F., Cargill, C. (2002): *Essentials of Sports Nutrition*. John Wiley and sons, Ltd., Chichester. Chapter 11, Pp. 163-165.

Manore, M. and Thompson, J. (2000): *Sport Nutrition for Health and performance*. Human Kinetics, Leeds. Pp. 418-422

Lecture 8

The Female Performer, Children and adolescents, Ageing

Lecture Content:
Women: special considerations regarding nutritional requirements. Pregnancy and Lactation.

Recommended Reading:
Burke, L.M. and Deakin, V. (2006): *Clinical Sports Nutrition*. 3rd ed. McGraw-Hill Australia Pty Ltd. Chapter 9, 10, 17, 18, 19 and 20

Great Britain. Working Group on the Nutritional Status of the Population. Subgroup on Bone Health. (1998). Nutrition and bone health : with particular reference to calcium and vitamin D / report of the Subgroup on Bone Health, Working Group on the Nutritional Status of the Population of the Committee on Medical Aspects of Food and Nutrition Policy. London : Stationary Office.

Manore, M. and Thompson, J. (2000): *Sport Nutrition for Health and performance*. Human Kinetics, Leeds. Chapter 15, Pp. 409-434.

Manore, M.M. (2002): Dietary recommendations and athletic dysfunction. *Sports Medicine*, 32 (14), 887-901.

Burke, L.M. and Deakin, V. (2006): *Clinical Sports Nutrition*. 3rd ed. McGraw-Hill Australia Pty Ltd. Chapter 17

Cheung, L.W.Y. & Richmond, J.B. (Eds.) (1995): Child Health, Nutrition and Physical Activity. Human Kinetics. Commentary 1: Growth and Development: nutritional considerations. Pp. 45-54.

Strain, JJ (Ed) (1995): Nutrition and Sport. Chapter 11. Nutritional Habits in Athletes with Special Reference to the Young. P. 116.

Lecture 9

Dietary Supplements and Nutritional Ergogenic Aids

Lecture Content:
Nutrients as ergogenic aids for performance. Caffeine, Creatine, Sodium Bicarbonate – effects on performance.

Recommended Reading:
Burke, L.M. and Deakin, V. (2006): *Clinical Sports Nutrition*. 3rd ed. McGraw-Hill Australia Pty Ltd. Chapter 16

Maughan, R.J., Burke, L.M. and Coyle E.F. (2003): *Food, Nutrition and Sports Performance II.* The International Olympic Committee Consensus on Sports Nutrition. Routledge, London. Chapter 8

Bernardot, D. (2000): Nutrition for Serious Athletes. Human Kinetics. Leeds. Pp. 133-134.

Brouns, F., Cargill, C. (2002): *Essentials of Sports Nutrition*. John Wiley and Sons, Ltd., Chichester, Chapter 10, Pp. 133-161.

7.0 LEARNING RESOURCES

7.1 CORE MATERIALS

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Burke, L.M. and Deakin, V. (2006): *Clinical Sports Nutrition*. 3rd ed. McGraw-Hill Australia Pty Ltd.

Manore, M. and Thompson, J. (2000): *Sport Nutrition for Health and performance*. Human Kinetics, Leeds.

7.2 OPTIONAL MATERIALS

Bernadot, D. (2000): *Nutrition for Serious Athletes. An advanced guide to foods, fluids and supplements for training and performance.* Human Kinetics. Leeds.

Brouns, F., Cargill, C. (2002): *Essentials of Sports Nutrition*. Second Edition. John Wiley and Sons, Ltd., Chichester Burke, L. and Deakin, V. (Eds.) (2000): *Clinical Sports Nutrition.* McGraw Hill. Boston.

Cheung L.W.Y. & Richmond J.B. (Eds) (1995) *Child Health Nutrition and Physical Activity.* Human Kinetics. Leeds.

Maughan, R.J. and Murray, R. (2001): *Sports Drinks: Basic Science and practical aspects.* CRC Press, Andover.

Maughan, R.J., Burke, L.M. and Coyle E.F. (2003): *Food, Nutrition and Sports Performance II.* The International Olympic Committee Consensus on Sports Nutrition. Routledge, London.

McArdle, W.D., Katch, F.I., Katch, V.L. (1999): *Sports and Exercise Nutrition.* Lippincott Williams and Wilkins. London.