Course Code	Course Title	ECTS Credits
NUTR-513	Ergogenic Practices & Nutritional Manipulation in Sports & Exercise	7.5
Prerequisites	**Department**	**Semester**
None	Life & Health Sciences	2nd
Type of Course	**Field**	**Language of Instruction**
Required	Dietetics/Nutrition	Greek /English
Level of Course	**Lecturer(s)**	**Year of Study**
2nd Cycle	Dr George Aphamis	1st
Mode of Delivery	**Work Placement**	**Co-requisites**
Face to face	N/A	None

Objectives of the Course:

The main objectives of the course are to:

- understand the physiological characteristics and demands of various Sports
- understand the physiological characteristics of athletes who engage in serious training in various Sports, with the objective of improving performance
- study, recognize and understand limitations to athletic performance, aetiology of fatigue
- study the response of physiological systems to various nutritional manipulations
- study and understand how to effectively use various nutrients to improve cardiovascular and muscular function in order to improve performance across a range of Sports
- study and understand how to effectively use various nutrients and nutritional supplements in order to enhance recovery between training sessions and before/after a competition.

Learning Outcomes:

After completion of the course students are expected to be able to:

1. understand the responses of body systems (cardiovascular, respiratory, muscular, etc) to exercise.
2. be aware of the physiological and metabolic demands of different Sports.
3. understand the physiological and metabolic adaptations to training and the physiological characteristics of elite Sports performers.
4. Understand what are the key points in the function of the various body systems which can be manipulated through nutrition in order to improve athletic performance (i.e. endurance, strength).
5. search and find suitable bibliography using selected keywords relevant to ergogenic aids as part of Sports nutrition.
6. recognize and assess strong and weak points of relevant journal papers.
7. critically interpret data and text from studies on human physiology and metabolism.

8. understand and interpret numerical data.

Course Contents:

1. Physiological adaptations to various types of strength training; improved strength performance following strength training, and nutritional demands of athletes who engage in strength training. 2. Physiological adaptations to endurance training; improved performance following endurance training, lactate threshold, aerobic power, running economy, aetiology of fatigue and the use of nutritional manipulations in order to offset fatigue and improve performance. 3. Physiological adaptations to sprint training; improved performance following speed training, force-velocity relationships during maximal intensity exercise, speed of movement and performance in various Sports and use of nutritional supplements in order to improve these parameters. 4. Anaerobic power, lactate production and tolerance, repeated sprints, aetiology of fatigue, physiological aspect of suitable regimes to increase lactic tolerance and improve athletic performance. Use of nutrients and nutritional supplements to increase lactate tolerance. 5. The endocrine system and hormonal responses at various exercise modes and intensities, and appropriate use of nutritional supplements as a means of promoting anabolic processes in the body.

Learning Activities and Teaching Methods:

Lectures, Course Work, Discussions, Oral Presentations.

Assessment Methods:

Midterm examination, Final examination, Oral Presentation, Participation

Required Textbooks / Reading:

Title	Author(s)	Publisher	Year	ISBN
Advanced Sports Nutrition	Dan Benardot	Human Kinetics	2012	E-book available

Recomended Textbooks / Reading:

Title	Author(s)	Publisher	Year	ISBN
Sports Nutrition	Asker Jeukendrup, Michael Gleeson	Human Kinetics	2010	Print copy available