Universidad Zaragoza

Academic Year/course: 2022/23

29218 - Sport: Nutrition and Food

Syllabus Information

Academic Year: 2022/23
Subject: 29218 - Sport: Nutrition and Food
Faculty / School: 229 - Facultad de Ciencias de la Salud y del Deporte
Degree: 441 - Degree in Human Nutrition and Dietetics
ECTS: 6.0
Year: 3
Semester: First semester
Subject Type: Compulsory
Module:

1. General information

2. Learning goals

3. Assessment (1st and 2nd call)

3.1. Assessment tasks (description of tasks, marking system and assessment criteria)

The student must demonstrate that they have achieved the expected learning outcomes through the assessment activities presented here.

The evaluation of learning outcomes will consist of three parts:

1) Written exam, which will account for 80% of the final grade and will explore theoretical and practical learning results

There will be two individual written tests on the theoretical and practical content of the subject, in the form of partials, during the teaching period of the subject.

First part: the test will assess the knowledge acquired from parts I and II of the subject's syllabus, and practices 1 to 4. The test will consist of:

- Test questions of theoretical content, of five options, only one correct. (35% of the test of the theoretical and practical contents)
- Short open-ended questions of theoretical content (35%)
- Questions related to practices and seminars (30%)

Second part: the test will have the same characteristics and sections as the first part, evaluating the knowledge of parts III and IV of theory, and practices 5 to 10.

First and second call: the written test will have the same structure as that of the partial test.

In the case of having to carry out the evaluation in a non-face-to-face online way, the tests will maintain the same structure, taking place through the Moodle platform of the University of Zaragoza.

2) Tutored work (25% of the final grade). They are concrete works carried out by the students, autonomously and directed by the teacher. The work will consist of the dietetic-nutritional planning of an athlete. The work will be done in a group, but will have individual assessment. It will be valued:

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The subject is strucutre in participative theoretical lectures and practice sessions in the laboratory or the classroom. Moreover, the student has to perform an autonomous work and evaluation activities.

During the performing of the autonomous work the studen can demostrate his/her capacity as a team-worker and respect to other professionals.

The teaching-learning process is eased by weekly tutorships, to help in general aspects of the subjct or to help and advise in the performing of the individual tasks.

4.2. Learning tasks

The teaching program offered to the students to help them to achieve the expected results have the following learning-teaching activities:

Lectures: 40 h (1,6 ECTS)

I n case the special circumstances derived from the Covid-19 require it, a synchronous online telematic teaching will be adopted, connected teachers and students through technologies that allow interaction (Google Meet type)

Practice seminars: 10 h (0,24 ECTS)

Practice laboratory: 12 h (0,52 ECTS).

In case the special circumstances derived from the Covid-19 require it, the practices to be carried out by the students will be adapted to a telematic modality based on PBLs; adopting synchronous online telematic teaching, connected teachers and students through technologies that allow interaction (Google Meet type).

Autonomous work: 8h (0,4 ECTS)

Evalutation test: 4 h (0,16 ECTS)

4.3. Syllabus

Theoretical program:

Part I: General aspects

- Introduction to sport nutrition.
- Functional structure of the muscle. Types of skeletal muscle fibers.
- Skeletal muscle contraction mechanism.
- Neuromuscular juntion. Transmission of the nervous impulse to the muscle fiber.
- Biophysics of muscle contraction. Isotonic and isometric contraction.
- Muscle metabolism during physical exercise. Muscular fatigue.
- Free radicals, antioxidants and physical exercise.

Part II: Physiological adaptations to physical activity

- Hematological modifications in the athlete. Sport anemia.
- Effect of physical activity on cardiovascular function.
- Respiratory adaptation to effort.
- Changes in kidney function during physical activity and regulation of acid-base balance.
- Digestive function and physical exercise.
- Endocrine response to physical exercise.
- Thermoregulation during physical effort.
- Physiological adaptation to altitude and hyperbaria.
- Physical aptitude. Limiting factors in sports practice.

Part III: Nutritional needs of athletes

- Nutritional status assessment in athletes.
- Measurement of energy expenditure in athletes
- Nutritional needs of athletes: energetic macronutrients and fiber. Water and electrolytes. Vitamines, minerals, micro and oligoelements
- Diet planning fot athletes.
- Nutrition applied to endurande sports
- Nutrition applied to strength sports

Part IV: Complementary aspects

- Ergogenic aids in sport.
- Physcial activity for health.
- Eating disorders in athletes.

Practical program:

1 and 5. Anthropometric evaluations and somatotype.
2. Biophysic of the skeletal muscle.
3. Cardiovascular and respiratory adaptations to physical activity and their aplications to sports nutrition.
4. Variation in glycemia during physical activity and its application to sports nutrition.
6. Analysis and/or elaboration of sport drinks.
7 and 8. Diet planning for days prior to competition / training: diet and previous menu for the day before, feeding and hydration guidelines for the competition day.
9. Muscle mass gain and strength sports diet planning.
10. Cronic situation planning diet: training diet with pre and post menu.

4.4. Course planning and calendar

Calendar of face-to-face sessions and delivery of work.

The schedule of face-to-face sessions and delivery of work will be established at the beginning of the course depending on the schedules and the academic calendar.

The key dates of the subject will depend on the programming of the subject. This information will be made public at the beginning of the corresponding academic year.

4.5. Bibliography and recommended resources

http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=29218