



## NUTRITION AND DIETETICS

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| <b>Enrollment year</b>     | 2020/2021   |
| <b>Academic year</b>       | 2021/2022   |
| <b>Regulations</b>         | DM270   |
| <b>Academic discipline</b> | MED/49 (APPLIED DIETARY SCIENCES )  |
| <b>Department</b>          | DEPARTMENT OF BIOLOGY AND BIOTECHNOLOGY "LAZZARO SPALLANZANI"   |
| <b>Course</b>              | EXPERIMENTAL AND APPLIED BIOLOGY  |
| <b>Curriculum</b>          | Bioanalisi  |
| <b>Year of study</b>       | 2°  |
| <b>Period</b>              | 1st semester (01/10/2021 - 14/01/2022)  |
| <b>ECTS</b>                | 6   |
| <b>Lesson hours</b>        | 48 lesson hours   |
| <b>Language</b>            | Italian   |
| <b>Activity type</b>       | WRITTEN TEST  |
| <b>Teacher</b>             | ROSSI PAOLA (titolare) - 6 ECTS   |
| <b>Prerequisites</b>       | The course is part of the preparation in General Physiology of students, and, specifically, of training in the field of human nutrition. In order to acquire the relative knowledge, the student is required to possess an adequate knowledge of the cellular membrane mechanisms (carriers, ionic channels, membrane receptors, simple diffusion mechanism, and so on.) and of the intracellular signal transduction mechanisms and intracellular pathways. Furthermore, knowledge of the chemical structure of the main biomolecules and metabolic cycles (krebs cycle, glycolysis, and so on.) is required |
| <b>Learning outcomes</b>   | The educational objectives of the course are:<br><ol style="list-style-type: none"><li>1. Know, understand, and remember the basis of Human Nutrition and Dietetic;</li><li>2. Be able to apply for each diet the knowledge learned;</li><li>3. Achieved autonomy in critically reading, understanding and</li></ol>  |

evaluating scientific literature in the field of Human Nutrition and Dietetic;  
4. Be able to communicate the knowledge learned in the specific field with a correct scientific language and scientific rigor;  
5. To have acquired the cultural tools to allow the independent study of other topics related to the Human Nutrition and Dietetic;

#### Course contents

1. Digestive system: anatomical organization;
2. Function of the digestive system: motor, absorbent and secretory functions;
3. Structure and function of: mouth; stomach, small intestine, large intestine;
4. Structure and functions of the liver;
5. Endocrine and exocrine function of pancreas;
6. The glycemic index of food;
7. Digestion, adsorption and bioavailability of macro and micronutrients;
8. Nervous and hormonal control of the digestive function;
9. Nutritional behavior;
10. Energy metabolism;
11. The body composition;
12. Instrumental measures of energy metabolism and body composition;
13. The gut microbiota;
14. Hydration
15. Merceology:
  - a). protein
  - b). carbohydrate and fibers
  - c) fats or lipids
  - d) vitamins
  - 9). minerals

#### Teaching methods

The following teaching methods and strategies will be used:

- Frontal lessons
- Problem solving methodology
- Practical lessons and classroom exercises
- Update seminars
- Drafting of food plan
- Use of food composition tables
- Use of LARN (Livelli di Assunzione Raccomandata dei Nutrienti)
- Use of Nutritional Guidelines for Italian People

#### Recommended or required readings

1. Alimentazione e nutrizione Umana di Cannella, et al. Pensiero scientifico editore
2. Fisiologia umana. Un approccio integrato. di Dee U. Silverthorn. Pearson Ed.

#### Assessment methods

The exam includes a written exam at the end of the course. The exam consists of 3 open-ended questions and 15 closed-ended questions. The evaluation is expressed for open questions with a score from 0 to 5 and for closed questions with a score of 0/1. The open questions will evaluate the student's preparation on the topic, the use of specific scientific terminology and the skills acquired in general during the course.

#### Further information

The teacher is available, by appointment, on Friday morning.

- Agenda 2030
- OSA
- goal number 3 Health and Wellness

**Sustainable development goals - Agenda 2030**

GOOD HEALTH AND WELL-BEING  
QUALITY EDUCATION

[The goals](#)