

<b>General Information</b>	Studies in <b>NUTRITION SCIENCE FOR HUMAN HEALTH</b>		
Title of the subject	<b>Food and Nutritional Biochemistry</b>		
Degree Course (class)	<b>Nutrition Science for Human Health</b>		
ECTS credits	6		
Compulsory attendance	No		
Language	Italian		

<b>Subject Teacher</b>		
Name and Surname	<b>Gennaro Agrimi</b>	
email address	<a href="mailto:gennaro.agrimi@uniba.it">gennaro.agrimi@uniba.it</a>	
Place and time of reception	Campus in Via E. Orabona, 4 – Pharmacy building, 1 <sup>st</sup> floor, room 214 From Monday to Friday by appointment	
<b>ECTS credits details</b>	Discipline sector (SSD)	Area
	Biochemistry (BIO/10)	Characterizing

<b>Study plan schedule</b>	Year of study plan	Semester
	first	first

<b>Time management</b>	Lessons	Laboratory	Exercises	Total
CFU	5	1		6
Total hours	40	12		62
In-class study hours				
Out-of-class study hours	85	13		98

<b>Syllabus</b>	
Prerequisites / Requirements	Basic knowledge of Physics, General and Organic Chemistry, Biochemistry, Human Anatomy and Physiology.

<b>Expected learning outcomes (according to Dublin descriptors)</b>	
Knowledge and understanding	- Nutrient classes - Nutritional needs; - Biological role of nutrients.
Applying knowledge	- Biochemical functions of nutrients; - Nutritional content of foods;
Making informed judgments and choices	- Be able to understand the biological role of nutrients and their role to maintain a good health status - Be able to recognize the main nutritional deficiencies.
Communicating knowledge	- Ability to describe the biochemical role of nutrients - Use of an appropriate terminology.
Capacities to continue learning	- Ability to use and understand the nutritional biochemistry books and scientific papers

<b>Study Program</b>	
Content	- Definition of feeding and nutrition. Nutritional standards. - Carbohydrates in nutrition and their nutritional need. Glycemic index. Dietary fibre. Nutritional role and metabolism of fructose, galactose, lactose.

	<ul style="list-style-type: none"> <li>- Lipids. Classification and nutritional importance. Fatty acids. Lipid nutritional need. Blood transport of lipids and lipoproteins. Cholesterol metabolism and transport. Essential fatty acids. Metabolism of the adipose tissue.</li> <li>- Proteins. Protein turnover. Nutritional role and metabolism of aminoacids. Dietary proteins. Celiac disease. Energy-protein deficiency syndromes.</li> <li>- Ethanol: metabolism and toxicity.</li> <li>- Vitamins, general definitions. Fat-soluble vitamins A, D, E, K: biochemical role, deficiency, toxicity. Water-soluble vitamins; group B vitamins. Anti-anaemic vitamins. Ascorbic acid. Oxidative stress and nutritional antioxidants.</li> <li>- Inorganic elements. (Ca, P, Mg; Fe, Cu, Zn, Se, Mn, I, F, Cr). Homeostasis and biological function.</li> </ul>
Bibliography and textbooks	<ul style="list-style-type: none"> <li>- ARIENTI - Basi molecolari della nutrizione - IV ediz. – Editore Piccin.</li> <li>- DEBELLIS - Alimentazione, Nutrizione e Salute - Editore EdiSES</li> <li>- Gropper, Smith. Advanced Nutrition and Human Metabolism. Cengage editor..</li> </ul>
Notes to textbooks	<ul style="list-style-type: none"> <li>- The parts relating to the physiology of the digestive system and nutrition are taken from text B.</li> <li>- The parts concerning the physiology of the organs are mainly taken from texts C and D.</li> </ul>
Teaching methods	<p>Frontal lessons with PowerPoint presentations</p> <p>Exercises in the classroom and in the laboratory.</p>
Assessment methods	<p>Oral exam</p>
Evaluation criteria	<ul style="list-style-type: none"> <li>- Knowledge and understanding Knowledge of the nutrients and of their nutritional role and presence in foods</li> <li>- Applying knowledge and understanding Knowledge of the main nutritional deficiencies</li> <li>- Autonomy of judgment Correlation of the nutritional deficiencies with the biochemical role of nutrients</li> <li>- Communicating knowledge and understanding Use of appropriate terminology.</li> <li>- Communication skills Ability to clearly explain the biochemical properties of the main nutrients.</li> <li>- Capacities to continue learning</li> </ul>
Further information	