



CLASS FORM

Master's degree	Biology - Curriculum "Food resources and nutrition"
Name of the class:	Biochemistry and Physiology of Nutrition (module of Biochemistry of Nutrition and Metabolic Diseases)
Number of Credits:	8 CFU
Semester:	Second
Teacher	Prof. Francesco Paolo Mancini
PhD students/research assistants that support teaching activities::	None
Office hours:	Every day, by appointment
Address:	Via Port' Arsa, 11 - 82100 Benevento

OUTLINE OF THE CLASS:

The class of Biochemistry and Physiology of Nutrition - module of Biochemistry of Nutrition and Metabolic Diseases - aims at providing the students with the molecular bases of human nutrition in relationship with the major metabolic abnormalities underlying human chronic-degenerative diseases. The class is designed to facilitate the learning by providing examples, correlations, logical-deductive reasoning with regard to the topics of the program of the exam.

TEACHING GOALS

Knowledge of biochemical mechanisms involved in nutrient use and role of nutrients in the prevention of the main human metabolic and chronic degenerative diseases. In addition to these typically knowledge-oriented goals, the class intends also to help the student to get the ability of autonomous and critical evaluation of the topics of the program. To this end, the teacher will provide frequent digressions, and interdisciplinary connections (touching on genetics, molecular biology, and human pathophysiology) relating to the topics of the lessons.

PRIOR REQUIREMENTS

Knowledge of general biochemistry and of the fundamental mechanisms of metabolism, basic concepts of genetics, molecular biology, physiology, and pathology.

ATTENDANCE TO THE CLASS

The attendance to the class is strongly recommended because the teacher is committed to facilitate learning and comprehension of Biochemistry through the integration of the various topics of the program with examples, correlations, and basic notions from different areas of biology. The other important point in favor of attending the class is the possibility for the students to ask questions during and after the lesson about concepts of the same or previous lessons that were not clear enough. Not only the single students, but all those attending the class can take advantage of such additional explanations by the teacher.

CLASS PROGRAM

Chemical nature and general classification of nutrients - Metabolism of carbohydrates: biochemistry of digestion, absorption and utilization of dietary carbohydrates - Metabolism of proteins: biochemistry of digestion, absorption, and utilization of dietary proteins - Metabolism of lipids: biochemistry of digestion, absorption, and utilization of dietary lipids - Metabolism of cholesterol - Metabolism of lipoproteins - Vitamins - Biochemical mechanisms involved in the pathogenesis of metabolic diseases: hypertension, obesity, diabetes. The Mediterranean diet and protection from metabolic and chronic-degenerative diseases.

TEACHING TOOLS

The class consists of lessons by the teacher, with the continuous encouragement to an interactive participation of the student by asking questions and making comments about the topics of the lessons, during or after the lesson or by meeting the teacher individually or in small groups upon making an appointment.

TEXTBOOKS

G.Arienti. Le basi molecolari della nutrizione. Piccin Editore, Padova.

Digital slides of the class.

EXAMS

Oral exam concerning the topics reported in the class program.

DATES OF EXAMS

Available at: <http://www.dstunisannio.it/index.php/studenti/appelli-esami>

RESERVATION OF EXAMS

Available at: <https://servizistudenti.unisannio.it/pls/self/gissweb.home>

SYLLABUS

Topics	Hours	Textbooks	Type of lesson
Chemical structure and classifications of nutrients	6	Arienti. Le basi molecolari della nutrizione. Piccin, Padova Slides	In the classroom
Carbohydrates: digestion, absorption, and use	8	Same	Same
Proteins: digestion, absorption, and use	6	Same	Same
Lipids: digestion, absorption, and use	8	Same	Same
Vitamins: sources, structures, mechanisms	6	Same	Same
Molecular bases of hypertension	8	Slides	Same
Molecular bases of obesity	8	Same	Same
Molecular bases of diabetes	8	Same	Same
Dyslipidemias and atherosclerosi	6	Same	Same