

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

Subject Teacher		
Name and Surname	Maria De Angelis	
email address	maria.deangelis@uniba.it	
Place and time of reception	Campus in Via E. Orabona, 4 – DiSSPA Agricultural Plexus; Agricultural Microbiology Section, floor 3 From Monday to Friday by appointment	
ECTS credits details	Discipline sector (SSD)	Area
	Agricultural Microbiology (AGR/16)	Characterizing

Study plan schedule	Year of study plan		Semester	
	first		first	
Time management	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

Syllabus	
Prerequisites / Requirements	Basic knowledge of Physics, General and Organic Chemistry
Expected learning outcomes (according to Dublin descriptors)	
Knowledge and understanding	<ul style="list-style-type: none"> - Knowledge of functional foods and modifications of the production cycle phases in relation to hygiene safety and shelf-life. - Knowledge of biology, ecophysiology, use and control of microorganisms, biodiversity and microbial resources of agro-food interest, microbial biotechnology, microbiology applied to agro-food, agro-industrial and environmental sectors.
Applying knowledge	<ul style="list-style-type: none"> - Correctly design the formulation of foods with high nutritional value. - Recognition, monitoring and control of altering, pathogenic, pro-technological and probiotic microorganisms in functional foods. Proper use of the properties of prebiotics and probiotics. - Ability to apply the instruments of analysis of food consumption dynamics.
Making informed judgments and choices	<ul style="list-style-type: none"> - To be able to understand, analyze and evaluate the scientific and popular literature related to the topics covered in the course.
Communicating knowledge	<ul style="list-style-type: none"> - Ability to describe with simplicity and effectiveness the knowledge

	related to the topics covered in the course, with particular reference to aspects related to the use of microorganisms in food production.
Capacities to continue learning	- Improve the ability to learn from highly complex technical-scientific texts, monographs, scientific periodicals, computer tools and databases in the physiological and nutritional field.
Study Program	
Content	<ul style="list-style-type: none"> - FUNCTIONAL FOODS AND CLAIMS - PROBIOTICS AND MAIN EFFECTS ON THE MICROBIOTA - MICROBIOTA FUNCTION - DIETARY SUPPLEMENTS - TARGET FOR THE DEVELOPMENT OF FUNCTIONAL BAKERY PRODUCTS - FERMENTATION QUOTIENT - HYDROLYSIS OF EPITOPES DURING FOOD PRODUCTION - FUNCTIONAL FOODS FROM VEGETABLES - SMOOTHIES
Bibliography and textbooks	- Notes from lessons and didactic material distributed during the course
Notes to textbooks	- None
Teaching methods	<ul style="list-style-type: none"> - Frontal lessons with PowerPoint presentations - Classroom and laboratory exercises.
Assessment methods	- Oral exam
Evaluation criteria	<ul style="list-style-type: none"> - Evaluation of the ability to present the knowledge of the course content in a clear and appropriate language. - Evaluation of the ability to grasp the key elements of the various topics and to use the information learned by making appropriate correlations for the understanding of the questions posed and for the management of the answers.
Further information	