


	PROCESO PARA EL DESARROLLO DE LAS ENSEÑANZAS DE LA ESCUELA DE INGENIERÍAS AGRARIAS		
		CÓDIGO: P/CL009_D002	

PROGRAMME IN MICROBIOLOGY

Academic course: 2019-2020

Identification and characteristics of the subject					
Code	501247			Créditos ECTS	6
Name (Spanish)	Microbiología				
Name (English)	Microbiology				
Degree	ENGINEERING IN AGRICULTURAL AND FOOD INDUSTRIES				
Center	Agricultural Engineering School				
Semester	(5th)	Type	<u>Compulsory</u>		
Module	Microbiology and Biochemistry				
Subject	Microbiology				
Language	Spanish				
Professor/s					
Name	Room	e-mail	Web link		
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Field of knowledge	Nutrition and Bromatology				
Department	Animal Production and Food Science				
Coordinator (if there is more than one professor)	Alejandro Hernández León				
Lessons and contents					
Syllabus					
<u>SECTION 1. GENERAL MICROBIOLOGY</u>					
LESSON 1. INTRODUCTION TO MICROBIOLOGY					
LESSON 2. OBSERVATION OF MICROORGANISMS. MICROSCOPY AND STAINS.					
LESSON 3: NUTRITION AND BACTERIAL METABOLISM. MICROBIAL GROWTH					
LESSON 4. BACTERIAL GENETICS: PHENOTYPIC AND GENOTYPIC VARIATIONS. MUTATIONS					
LESSON 5. EVOLUTION, SYSTEMATICS AND MICROBIAL TAXONOMY.					
LESSON 6. CONTROL OF MICROBIAL GROWTH. PHYSICAL AND CHEMICAL AGENTS. ANTIBACTERIAL					

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LESSON 7. THE MICROBIOTA. PATHOGENESIS OF BACTERIAL INFECTIONS.
 LESSON 8. MICROBIOLOGICAL IMMUNOLOGY. ANTIGENS AND ANTIBODIES. IMMUNOLOGICAL TECHNIQUES APPLIED TO MICROBIOLOGY
 LESSON 9. VIRUS.
 LESSON 10. FUNGI.
 LESSON 11. EPIDEMIOLOGY AND PROPHYLAXIS.
SECTION 2. MICROORGANISMS IN THE ENVIRONMENT
 LESSON 12. FUNDAMENTALS OF MICROBIAL ECOLOGY.
 LESSON 13. MICROBIOLOGY OF THE MAIN NATURAL ECOSYSTEMS.
 LESSON 14. MAIN MICROORGANISMS OF INTEREST IN FOOD.

PRACTICAL SYLLABUS

PRACTICAL LESSON 1: PREPARATION OF CULTURE MEDIA.
 PRACTICAL LESSON 2: CULTURE TECHNIQUES AND MICROBIAL ISOLATION
 PRACTICAL LESSON 3: MICROSCOPIC OBSERVATION OF MICROORGANISMS
 PRACTICAL LESSON 4: DIFFERENTIAL STAINS
 PRACTICAL LESSON 5: RECOGNITION OF PROKARYOTIC MICROORGANISMS
 PRACTICAL LESSON 6: MICROBIAL GROWTH CURVES.
 PRACTICAL LESSON 7: TECHNIQUES OF SOWING AND COUNTING

SEMINAR ACTIVITIES

TAXONOMIC DESCRIPTION OF A GENUS / MICROBIAL SPECIES