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

PROGRAMME IN

Academic course: 2019-2020

Identification and characteristics of the subject					
Code	501119			Créditos ECTS	6
Name (Spanish)	Fundamentos de Biología				
Name (English)	Principles of Biology				
Degree	ENGINEERING IN AGRICULTURAL AND FOOD INDUSTRIES				
Center	Agricultural Engineering School				
Semester	First (1st)	Character	Compulsory		
Module	Basic				
Subject	Biology				
Language	Spanish				
Professor/s					
Name	Room	e-mail	Web link		
Julio Salguero Hernández	D-107	salguero@unex.es			
Field of knowledge	Plant Biology				
Department	Plant Biology, Ecology and Earth Sciences				
Coordinator (in case there is more than one professor)					
Lessons and contents					
Syllabus					
<p>SECTION I.- The Science of Biology Lesson 1. Introduction. Practical Biology. Scientific Methodology</p> <p>SECTION II.- The Chemical Basis of Life Lesson 2.- Introduction. Structural Organization and Chemical Basis Of Life. Organic Compounds. Organic Compounds. Nucleotides and Nucleic acid. Lipids.</p> <p>SECTION III.- Cell - The Basic Unit of Life Lesson 3.- Introduction. Modern Cell Theory. Structure of Cell. Cellular organelles. Movement through the Plasma Membrane</p>					

SECTION IV.-Photosynthesis

Lesson 4.-

Introduction. Chloroplasts. Overall Equation of Photosynthesis. Primary Process of Photosynthesis. Secondary Processes of Photosynthesis (Biochemical Phase, Dark Reaction)

SECTION V.- Cellular Respiration

Lesson 5.-

Introduction. Ultrastructure and Functions of Mitochondrion. An Overview of Cellular Respiration. The T.C.A. Cycle (Tricarboxylic Acid Cycle)Glycolysis. Electron Transport Chain. Fermentation. Significance of Respiration.

SECTION VI.- Cell Division

Lesson 6.-

Introduction

The Cell Cycle. The Cell Cycle. Mitosis. Meiosis. Comparison between Mitosis and Meiosis

SECTION VII.- Classical and Mendelian Genetics

Lesson 7.-

Introduction. Gregor Mendel. Mendel's Experiment on Sweet Pea. Terminology Used . Law of Dominance. Monohybrid Ratio. Law of Segregation. Dihybrid Ratio. Law of Independent Assortment. Test Cross or Back Cross.

PRACTICAL SYLLABUS

Practical lesson #1 **Optical microscopy.**

Practical lesson #2 **Observation of animal cells**

Practical lesson #3: **Observation of plant cells**

Practical lesson #4: **Fehling reaction. Lugol reaction. Lowry Method.**

Practical lesson #5: **Mitosis**