UNIVERSIDAD DE EXTREMADURA

FIELD CROPS
2018-2019

Identification and characteristics					
Code	501137			ECTS	6
Subject	Field Crops				
Titulaciones	GRADO EN INGENIERÍA DE LAS EXPLOTACIONES AGROPECUARIAS				
Centro	Escuela de Ingenierías Agrarias				
Semestre	Second (6º)	Compulsory			

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Área de conocimiento	Producción Vegetal
Department	Ingeniería del Medio Agronómico y Forestal

Contents

Summary of the contents

Scientific and technological studies of field crops. Characteristics of the main species of field crops (cereals, legumes and industrial crops) related to taxonomic, morphological, physiological, ecological, varietal and crop technology aspects. Energy crops and new uses.

Theory

Lesson 1: **Introduction to field crops**

Crops Science concept. Differences between extensive and intensive crops. Main characteristics of Cereals, legumes and Industrial crops.
Lesson 2: **Cereals generalities** Introduction. Botany. Morphology, physiology and ecology. Main cereals pests and diseases
Lesson 3: **Wheat** Introduction. Botany. Morphology, physiology and ecology. Breeding and management.
Lesson 4: **Barley** Introduction. Botany. Morphology, physiology and ecology. Breeding and management.
Lesson 5: **Other cereals** Oat, rye, triticale and others.
Lesson 6: **Corn** Introduction. Botany. Morphology, physiology and ecology. Corn breeding and management.
Lesson 7: **Rice** Introduction. Botany. Morphology, physiology and ecology. Rice breeding and management.
Lesson 8: **Faba bean** Introduction. Botany. Morphology, physiology and ecology. Faba bean breeding and management.
Lesson 9: **Field peas** Introduction. Botany. Morphology, physiology and ecology. Pea breeding and management.
Lesson 10: **Chickpea** Introduction. Botany. Morphology, physiology and ecology. Chickpea breeding and management.
Lesson 11: **Other legumes** Soja. Lupin. Lentils. Grass pea. Other species.

Lesson 12: **Beetroot** Introduction. Botany. Morphology, physiology and ecology. Beetroot breeding and management.
Lesson 13: **Sunflower** Introduction. Botany. Morphology, physiology and ecology. Sunflower breeding and management.
Lesson 14: **Tobacco** Introduction. Botany. Morphology, physiology and ecology. Tobacco breeding and management.
Lesson 15: **Other industrial Crops** Fibers producers: cotton, linen, hemp, kenaf and others. Oilseeds: rapeseed, safflower, castor oil plant and others. Bioenergy crops: bioethanol, biodiesel and biomass.
Practicals
Practice 1: **CEREAL DIFFERENCIATION** Recognition and distinction between cereals in each of their growth phases.
Practice 2: **PHYSICAL AND CHEMICAL PROPERTIES OF CEREALS.** Yield determination, impurities, hectolitre weight, 1,000 grain weight, germination, proteins and hardness.
Practice 3: **REOLOGICAL PROPERTIES OF CEREALS** Wet and dry gluten determination and Chopin Alveograph parameters
Practice 4: **PHENOLOGICAL STATUS OF CEREALS** Sow and follow-up of germination-emergence phases, vegetative development, grain filling and maturation. Determination of fertilization and phytosanitary treatments.
Practice 5: **LEGUMES DIFFERENCIATION** Recognition and distinction between legumes in each of their growth phases.
Practice 6: **INDUSTRIAL CROPS DIFFERENCIATION** Recognition and distinction between industrial crops in each of their growth phases

Practice 7: **SEED DIFFERENCIATION** Distinction between legumes and industrial crops seeds.
Practice 8: **REALIZATION OF A WORK.** Bibliographic research, working in groups and preparation and defence of a work.
Practice 9: **VISIT OF A PARTICULAR FARM AND/OR RESEARCH FIELDS** Carrying out a visit to different farms where the farm is being carried out and different research works in field crops.
Practice 10: **MOODLE ACTIVITIES** Realization of different activities that will be proposed in moodle along the academic year.

Evaluation

1. Final exam (80%): theoretical and practical knowledge acquired during the course delivery by a written final exam consisting of two parts: theory test (65%) and practice exam (15%). It is necessary to pass both exams (minimum mark half of the considered value) to pass the subject.

2. Continuous evaluation (15%): practical skills and ability to integrate with theoretical knowledge. Participation in the classes through direct questions and discussion of results. Preparation and defence of a work determined with the professor.

3. Assistance with academic achievement (5%): Innovation, creativity and resource consultation in solving activities during the lessons.