COURSE DATA

Data Subject	
Code	34001
Name	Production of Prime Materials
Cycle	Grade
ECTS Credits	6.0
Academic year	2023 - 2024

Study (s)

Degree	Center	Acad. year	Period
1103 - Degree in Food Science and Technology	Faculty of Pharmacy and Food Sciences	2	Second term

Subject-matter

Degree	Subject-matter	Character
1103 - Degree in Food Science and Technology	15 - Production of raw materials	Obligatory

Coordination

Name	Department
CARBO VALVERDE, ESTER	25 - Plant Biology
PONS MARTI, VICENTE	25 - Plant Biology

SUMMARY

Raw material production:

is structured in 6 credits, taught in the second semester of the second year.

The course:

- aims impart basic knowledge and develop attitudes necessary for the student to know the materials used in food
- focuses on to know the basics systems and structures of production of foods of both plant and animal.

- Focuses on fundamental factors and processes related to the use, management and control of plants and animals, highlighting its importance in the features and quality of raw materials obtained.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

The subject PRODUCTION OF RAW MATERIALS need previous knowledge of Biology and Physiology

Recommended have a minimum knowledge of:
Soil resources,
food Botany and Zoology
plant and animal Physiology together with knowledge about the composition of food products

OUTCOMES

1103 - Degree in Food Science and Technology

- The ability to transmit ideas, problems and solutions within the study area of modern languages and their literatures.
- Saber aplicar los conocimientos en el área de Ciencia y Tecnología de los Alimentos al mundo profesional, contribuyendo al desarrollo de los Derechos Humanos, de los principios democráticos, de los principios de igualdad entre mujeres y hombres, de solidaridad, de protección del medio ambiente y de fomento de la cultura de la paz.
- Have an in-depth knowledge of the natural resources used for the production of raw materials intended for obtaining food.
- Acquire knowledge of physiology and optimal management of plants and animals used for food production.
- Know and understand the impact of fertilisation, farming techniques, operation of farms, physiology of the animal species used and other aspects that affect the final characteristics of raw materials of plant and animal origin.
- Be able to identify the different agricultural production systems and understand how media, factors and processes combine.
- Learn how to analyse those factors linked to production systems that can exert a greater influence on the yield and quality of food.
- Show good judgement to select the different species according to requirements, and to choose the most suitable production techniques to obtain final characteristics of raw materials suited to consumer preferences.

- Alcanzar experiencia en trabajar en equipo y utilizar un vocabulario científico que permita expresar con rigor las ideas propias sobre la materia.
- Conseguir planificar y realizar un estudio hipotético en el que se apliquen los conocimientos adquiridos que resulte organizado, comprensible y preciso.

LEARNING OUTCOMES

The training should enable students to have:

* Basic knowledge of species (plants and animals), opinion on production requirements of different plant and animal species, while production systems knowledge and its importance in the characteristics of raw materials obtained.

* Ability to analyze the quality parameters of raw materials for better performance and features tailored to consumer preferences and needs of industrial processing.

* Ability to work in groups, find and interpret information on the production of raw materials and processing.

* Attitude necessary to achieve competence in the selection of species most suitable for obtaining raw materials and choose the most suitable production systems, in accordance with the requirements of process and product quality

DESCRIPTION OF CONTENTS

1. PRELIMINARY CONCEPTS

Topic 1: Introduction. Food and animal and plant production
Topic 2: Diagnosis of the agricultural situation.

2. PLANT PRODUCTION. ENVIRONMENTAL FACTORS AFFECTING THE PLANT PRODUCTION

Topic 3: Climatic factors: climate and land Bioclimatology.
Topic 4: The soil as a substrate for growing plants. Type of soil: importance in agricultural production and limit the production aspects. Soil Evaluation
Topic 5: Water. Water Management in cultivated soils. Irrigation water and salinity. Problems

3. CROPPING SYSTEMS

Resources and optimization techniques
Topic 6: Farming. Operating systems and general management. Plantings and plantations. Weather and soil modification techniques.

4. PRACTICES FOR CROP PRODUCTION

Topic 7: Nutrition of plants. Essential elements for plants. Fertilizers. Classification. Time and form of employment.
8: Control of weeds, pests and diseases plant protection products. Concept and types. Mechanisms of action. The behavior of pesticide in the soil.

5. QUALITY OF PLANT PRODUCTS

Item 9: The soil as a means self-cleaning. Soil contamination
Item 10: Analysis of current agricultural production. Traditional farming and sustainable agriculture and alternative. Interactions and problems.

6. MAJOR GROUPS OF CROPS.AGRICULTURAL PRODUCTION.

GROUP 1: IRRIGATION crops
Item 11: Citrus. Soil and climate requirements. Patterns. Varietal types. Cultivation techniques. Tillage and fertilization. Irrigation, weed control, pests and diseases. Collection and preservation of citrus
GROUP 2: DRY crops
Item 12: Vid. Soil and climate requirements. Patterns. Varietal types. Cultivation techniques. Tillage and fertilization. Irrigation, weed control, pests and diseases. Collection and preservation
Item 13: Olive Soil and climate requirements. Patterns. Varietal types. Cultivation techniques. Tillage and fertilization. Irrigation, weed control, pests and diseases. Collection and preservation
GROUP 3 ARABLE crops
Item 14: Arable crops: Cereals. Tuberous crop. Horticultural crops

7. PRELIMINARY CONCEPTS OF ANIMAL PRODUCTION

Topic 15: Production of raw materials of animal origin
Animal production. Animal production in the European Union. Animal production in Spain. Animal production in Valencia. Appellations

8. PRODUCTION OF RAW MATERIALS OF ANIMAL ORIGIN

PRODUCTION OF RAW MATERIALS OF ANIMAL ORIGIN
Topic 16: Ruminants I (Bovine)
Introduction. Main breeds of cattle. Production systems. Transportation and sacrifice. The Canal and its performance. The carcass composition of slaughter animals and their factors of variation
Topic 17: Ruminants II (Sheep - Goat)
Introduction. Main breeds of sheep and goats. He ordered. Fundamental principles of cheese. Types of cheese
Topic 18: Monogastric I (Porcine)
Introduction. Main breeds of pigs. Breeding and feeding. Production cycle. Iberian ham
Topic 19: Monogastric II (Aves)

Management chicks. Lighting program. Lighting stimulation program. Flashing light. Individual lighting programs. Management egg size.
Topic 20: Bees
Beekeeping. Classification of the honeybee. Hives. Auxiliary beekeeping equipment. Beekeeping management. Bee products. Nougat.

9. PRACTICES

Practice 1.- Vegetal Production. Plant / soil: Comparison of vegetative growth between different soil types. Analysis and salinity-induced phytotoxicity
Practice 2.- Analysis of soil properties determinants of plant production. Verification of the effects of land management component of the quality of agricultural products
Practice 3-. Foreign plant / water / soil: study of the dynamics of water. Evaluation of the influence of water quality in the production of crops
Practice 4.- Animal Production Visit to a farming

WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	38,00	100
Laboratory practices	15,00	100
Seminars	2,00	100
Tutorials	2,00	100
Development of group work	5,00	0
Development of individual work	5,00	0
Study and independent work	25,00	0
Readings supplementary material	8,00	0
Preparation of evaluation activities	2,00	0
Preparing lectures	25,00	0
Preparation of practical classes and problem	15,00	0
Resolution of case studies	5,00	0
TOTAL	**147,00**	

TEACHING METHODOLOGY

For the teaching of the subject **PRODUCTION OF RAW MATERIALS** will be held classroom (theory and practical) and seminars. This will be done in groups.

Other activities such as tutoring or monitoring of the course work will be carried out individually or in groups smaller than the previous activities.

It provides the student with teaching material and selected bibliography in the virtual classroom of matter

EVALUATION

During the development of the subject both theoretical and practical classes, there will be a:

A) **Continuous assessment** (5%) of each student, based on regular attendance at classes and classroom activities, participation and degree of involvement in the process of teaching and learning and skills and attitudes displayed during the development of activities.

Attendance at **tutorials** class activities is mandatory.

B) Evaluation of **laboratory work** (15%) by monitoring the work of the same, the ability to solve experimental problems encountered and the ability to perform a memory of the experimental results. Attendance at practices and delivery of memory is required.

Both sections shall account for more than 20% of the final evaluation

C) Evaluation of the performance presentation and discussion **seminars** and topics related to the contents explained in class. It assessed the level of understanding of the content and skills for presentation and discussion. Attendance at seminars is compulsory.

This section will contribute to the final with a rate of 10% (always you have attendance the seminars).

Details of seminars coordinated assessment be made public on the website of the Centre

D) Evaluation of a **written test** to ensure knowledge and understanding of the levels set for the subject.

This section will contribute to the final with a maximum 70%.

COMMENTS:

To pass the course you must obtain a grade of at least 5 out of 10 inEACH field (A+B and C) to effect a weighted average of the final grade.

If the student pass tutories and seminars, but he/she do not perform the theorical-practical exam, the mark will be **Non presented** (in the first call of the course) or **Fail** in the second and subsequent calls

REFERENCES

Basic

- Agusti, M (2003): Citricultura. Ed Mundi Prensa. Madrid
  Barranco, D. (1998): El cultivo del olivo. Ed Mundi Prensa. Madrid
  Maroto,J. V. (2002): Horticultura herbácea especial. Ed Mundi-Prensa
  Porta J. et al.(2003): Edafología para la agricultura y el medio ambiente. Madrid, Ed. Mundi-Prensa.
  Porta,J.; Lopez-Acevedo,M.; Poch, R.M. (2008) Introducción a la Edafología. Uso y Protección del suelo". Ed.Mundi Prensa. Madrid.
  Reynier, A (2005) .Manual de viticultura. Ed Mundi-Prensa
  Buxadé, C. (1996): Zootecnia: Bases De Producción Animal. Vol. 9: Producción caprina. Ed. Mundi Prensa
  Buxadé, C. (1996): Zootecnia: Bases De Producción Animal. Vol. 8: Producción Ovina. Ed. Mundi Prensa
  Buxadé, C. (1996): Zootecnia: Bases De Producción Animal. Vol. 7: Producción Vacuna De Leche Y Carne. Ed. Mundi Prensa
  Buxadé, C. (1996): Zootecnia: Bases De Producción Animal. Vol. 6: Porcinocultura Intensiva y Extensiva. Ed. Mundi Prensa
- Ortega E (Ed.) 2011: Producción de Materias Primas Alimentarias: I Material Vegetal. Universidad de Granada

Additional

- http://ec.europa.eu/agriculture/index_es.htm
  www.mapya.es
  www.ivia.es
  www.agricultura.gva.es