Universitat de Lleida

DEGREE CURRICULUM

ORGANIC FARMING

Coordination: SANTIVERI MORATA, FRANCISCA

Academic year 2021-22

ORGANIC FARMING 2021-22

Subject's general information

<table>
<tr><td>Subject name</td><td>ORGANIC FARMING</td></tr>
<tr><td>Code</td><td>102502</td></tr>
<tr><td>Semester</td><td>2nd Q(SEMESTER) CONTINUED EVALUATION</td></tr>
<tr><td>Typology</td><td>
<table>
<tr><th>Degree</th><th>Course</th><th>Character</th><th>Modality</th></tr>
<tr><td>Bachelor's Degree in Agricultural and Food Engineering</td><td>4</td><td>OPTIONAL</td><td>Attendance-based</td></tr>
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<tr><td>Course number of credits (ECTS)</td><td>6</td></tr>
<tr><td>Type of activity, credits, and groups</td><td>
<table>
<tr><th>Activity type</th><td>PRACAMP</td><td>TEORIA</td></tr>
<tr><th>Number of credits</th><td>1.2</td><td>4.8</td></tr>
<tr><th>Number of groups</th><td>1</td><td>1</td></tr>
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<tr><td>Coordination</td><td>SANTIVERI MORATA, FRANCISCA</td></tr>
<tr><td>Department</td><td>CROP AND FORESTRY SCIENCES</td></tr>
<tr><td>Important information on data processing</td><td>Consult this link for more information.</td></tr>
<tr><td>Language</td><td>Catalan: 45%
Spanish: 50%
English: 5%</td></tr>
<tr><td>Distribution of credits</td><td>Face to face hours: 60 (this course, with mixed teaching, 50% of the hours will be in the classroom and the other 50% with synchronous online activities using the videoconferencing tool)
Autonomus work hours: 90</td></tr>
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ORGANIC FARMING 2021-22

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
COSTA TURA, JOAN	joan.costatura@udl.cat	1	
MARTIN CLOSAS, LLUIS	lluis.martin@udl.cat	1	
OLARIETA ALBERDI, JOSE RAMON	joseramon.olarieta@udl.cat	,6	
SANTIVERI MORATA, FRANCISCA	paquita.santiveri@udl.cat	3,4	

Subject's extra information

Ecological Agricultural Production is an optional subject that provides a specialization in ecological crop production systems. In it, they establish the bases of Agroecology and explain the differences between the conventional production techniques and the ecological production, as well as the most important characteristics in the main crop groups. For this reason, we require the knowledge of some previous courses as Biology, Plant Physiology, Edaphology and Climatology, Bases of plant production, Crop Protection, Field Crop Technology, Field Crops and Horticulture. This is a theoretical and practical subject, with theoretical explanations that complement both practical case resolutions and technical visits.

Learning objectives

Targets

The objectives to be achieved include:

- Define the concepts of Organic Agriculture and Agroecology
- Describe the agronomic bases of Ecological Agricultural Production
- Understand the most important characteristics of the ecological production of extensive crops, horticultural crops and fruit trees.
- Evaluate the sustainability of organic production systems

Competences

CB1. That students have demonstrated that they possess and understand knowledge in an area of study that starts from the base of general secondary education, and is usually found at a level that, although supported by advanced textbooks, also includes some aspects that imply knowledge from the forefront of your field of study

CB2. That students know how to apply their knowledge to their work or vocation in a professional way and possess the competencies that are usually demonstrated through the elaboration and defense of arguments and solving problems within their area of study.

CB3. That students have the ability to gather and interpret relevant data (usually within their area of study) to make judgments that include reflection on relevant issues of a social, scientific or ethical nature.

CB4. That students can transmit information, ideas, problems and solutions to both specialized and non-specialized audiences.

CB5. That students have developed those learning skills necessary to undertake further studies with a high degree of autonomy.

General skills

CG6. Ability to direct and manage all types of agri-food industries, farms and livestock, urban and / or rural green spaces, and public or private sports areas, with knowledge of new technologies, quality processes, traceability and certification and the techniques of marketing and marketing of food products and cultivated plants

CG8. Ability to solve problems with creativity, initiative, methodology and critical reasoning.

CG11. Ability to develop their activities, assuming a social, ethical and environmental commitment in tune with the reality of the human and natural environment.

Specific skills

CEEA2. Ability to know, understand and use the principles of: Plant production technologies. Production and exploitation systems. Protection of crops against pests and diseases. Technology and systems for growing herbaceous species. Agroenergetics.

Subject contents

Contents

Theory
I. Introduction to Organic Agriculture (8 hours) (PVCF)
1. The Green Revolution as the origin of current agriculture (2 hours).

2. Definition of Sustainable Agriculture, Organic Agriculture, Biodynamics. Agricultural and economic importance (4 hours)
3. Legislation and certification of the Organic Agriculture (2 hours)

II. Basics of organic production (12 hours) (PVCF)

4. Plant material: autochthonous varieties and conservation of the biodiversity (2 hours)
5. Fertilization in organic farming (3 hours)

6. Control of the flora arvense (2 hours)
7. Protection of the crop (2 hour)
8. Crop rotations and associated crops (3 hours)

III. Organic crop production (18 hours) (PVCF and HBJ)
9. Organic production of extensive crops (2 hours, PVCF)

10. Organic production of vegetables (6 hours, HBJ)
11. Organic production of fruit trees (6 hours, HBJ)
12. Production of organic fodder (2 hours, PVCF)

IV. Agroecology (6 hours) (MACS)
14. Agroecology and Rural Development

V. Sustainability assessment (2 hours) (PVCF)
15. Approaches to sustainability assessment

Practical activities
Seminars
Sustainability assessment (2 hours)

Technical visits
1.- Visit to farms of ecological production of extensive crops (4 hours)
2.- Visit to farms of ecological production of horticultural (4 hours)
3.- Visit to farms of ecological fruit production (4 hours)

Methodology

Activity	Description	Classrom activity		Home activity		Evaluation	Total	
		Objectives	Hours	Sudent's work	Hours	Hours	Hours	ECTS
Master class	Master class	Explanation of main concepts	**46**	Study: Know, understand and synthesize knowledge.	**40**	**4**	**90**	**3,6**
			"	Case resolution	**27**		**42**	**1,1**
Seminars	Participatory class	Application of the theoretical concepts taught in the master classes	**2**	Problems and cases	**4**	**2**	**8**	**0,3**
Visits	Field practices	Application of the theoretical concepts taught in the master classes Professional practice	**12**	Write report	**13**		**25**	**1**
Totals		**60**			**84**	**6**	**150**	6

Observations
25 hours of total activity per ECTS credit have been considered.
Adaptation to the mixed teaching of the course 2020-21: The face-to-face classes will be done partially with videoconference. In this case, guided activities will be resolved from time to time during the hours assigned as non-contact teaching with the teacher's advice (by videoconference).

Development plan

Activity	Content	Objective	Hours	Acumulated Hours	Evaluation Theory
Master class	Lesson 1	1	**2**	**2**	**T1**
Master class	Lesson 2	1	**4**	**6**	**"**
Master class	Lesson 3	1	**2**	**8**	**"**

Master class. Case study.	Lesson 4	2	**2**	**10**	"
Master class. Case study.	Lesson 5	2	**3**	**13**	"
Master class. Case study.	Lesson 6	2	**2**	**15**	"
Master class. Case study.	Lesson 7	2	**2**	**17**	"
Master class. Case study.	Lesson 8	2	**4**	**20**	"
Master class. Case study.	Lesson 9	3	**2**	**22**	**T2**
Visit	Visita1	3	**4**	**26**	"
Master class. Case study..	Lesson 10	3	**6**	**32**	"
Visit	Visit 2	3	**4**	**36**	"
Master class. Case study.	Lesson 11	3	**6**	**42**	"
Visit	Visit 3	3	**4**	**46**	"
Master class. Case study.	Lesson 12	3	**2**	**48**	"
Master class. Case study.	Lesson 13	3	**2**	**50**	"
Master class. Case study.	Lesson 14	1-2-3	**6**	**54**	
Master class	Lesson 15	4	**2**	**56**	"
Seminar	Seminar 1	4	**2**	**58**	"
TOTALS			**60**		

Evaluation

Activity	Evaluation	Number	% qualification
Master class	Written exams	**2**	**65**
Team work	Oral presentation	**1**	**15**
Seminars	Reports and classroom presentation	**1**	**5**
Visits	Reports	**4**	**15**
Total			**100**

Observations
Attendance at all visits and the seminar is mandatory.
Partial exams are passed with 5.
For the purposes of the final grade, in order to pass the subject you must have obtained a grade equal to or higher than 5 points in the different parts of the course.

Bibliography

Basic references

Astier, M., Masera, O.R. Galcán-Miyoshi, Y. 2008. Evaluación de sustentabilidad: un enfoque dinámico y multidimensional. SEAE.

Barker, A. 2010. Science and Technology of Organic Farming. CRC Press

De las Heras, J., Fabeiro, C., Meco, R. 2003. Fundamentos de agricultura ecológica : realidad actual y perspectivas. Universidad de Castilla-La Mancha

Kristiansen, P., Taji, A., Reganold, J. 2006. Organic agriculture: a global perspective. Ithaca, New York : Comstock Pub. Associates

Lampkin, N. 1998. Agricultura ecológica. Munid Prensa. Madrid.

Complementary references

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Labrador, J.; Altieri, M.A. 2001. Agroecología y desarrollo sostenible: aproximación a los fundamentos agroecològicos para la gestión sustentable de agrosisLessons mediterráneos. Universidad de Extremadura. Madrid. Mundi-Prensa.

Meco, R. 2001. Control de la flora arvense en agricultura ecológica. Madrid. Ministerio de Agricultura, Pesca y Alimentación. Secretaría General Técnica.

Nicholls, C.I, Altieri, M.A., Sánchez, J. 2001. Manual práctico de control biológico para una agricultura sustentable. Asociación Vida Sana: SEAE.