

Year : 2018/19

28916 - Plant Science/ Plant production

Syllabus Information

Academic Year:	2018/19
Subject:	28916 - Plant Science/ Plant production
Faculty / School:	201 -
Degree:	437 - Degree in Rural and Agri-Food Engineering
ECTS:	6.0
Year:	2
Semester:	Second semester
Subject Type:	Compulsory
Module:	---

General information

Aims of the course

Context and importance of this course in the degree

Recommendations to take this course

Learning goals

Competences

Learning goals

Importance of learning goals

Assessment (1st and 2nd call)

Assessment tasks (description of tasks, marking system and assessment criteria)

Methodology, learning tasks, syllabus and resources

Methodological overview

This course develops knowledge of plant integrated responses to environmental characteristics and plant production. Special emphasis will be placed on agricultural systems, environmental determinants and productions techniques including irrigation and fertilization practices.

Learning tasks

Theoretical dissertation, practical sessions, written coursework, and formal examinations related to plant production.

Syllabus

Programme of theory and practicals

1.- Module I: Agricultural systems.

I.1 Agricultural systems: definitions

Formative activity: Lectures

I.2 Decision-making in agriculture

Formative activity: Lectures

I.3 Rotations in agriculture

Formative activity: Lectures and problem-solving and case studies

2.- Module II: Environmental determinants.

II.1 Temperature

Formative activity: Lectures and laboratory practicals

II.2 Radiation

Formative activity: Lectures and problem-solving and case studies

II.3 Water and irrigation

Formative activity: Lectures and problem-solving and case studies

II.4 Wind

Formative activity: Lectures

II.5 Soil

Formative activity: Lectures and laboratory practicals

3.- Module III. Production techniques.

III.1 Sowing

Formative activity: Lectures and laboratory practicals

III.2 Fertilization

Formative activity: Lectures and laboratory practicals

Formative activity: Lectures

Field trips are considered formative activities for all modules and 10 hours of instruction are dedicated to them with visits of 5 hours to each of two farms, although travelling time will mean that each visit is a whole-day activity.

Course planning and calendar

week	1	2	3	4	5	6	7	SS	8	9	10	11	12	13
Lectures	I.1 y I.2	I.3	II.1	II.2	II.3	II.3	II.3 and II.4		II.5	II.5	II.5	III.1	III.1	II.5
Hours	2	2	2	2	2	2	2		2	2	2	2	2	2
Seminars/problem based learning			I.3			II.2 and II.3			II.3		II.3			
Hours			2			2			2		1			
Laboratory/Computer sessions	III.2 and II.1			II.1	II.5 and III.2		II.5			II.5 and III.2		III.1	III.2	
Hours	2			2	2		2			2		2	1	
Field trips		visit 1												v
Hours		5												5
Assesment tasks														
Individual work	5	4	5	5	5	5	5	8	5	5	8	5	5	4

Bibliography and recommended resources

- BB** Condiciones del suelo y desarrollo de las plantas según Russell / coordinado por Alan Wild ; versión española de P. Urbano Terrón, C. Rojo Hernández Madrid : Mundi-Prensa, 1992
- BB** Fitotecnia : bases y tecnologías de la producción agrícola / Francisco J. Villalobos...[et al.] Madrid : Mundi-Prensa, 2002
- BB** Loomis, R.S.. Ecología de cultivos : Productividad y manejo en sistemas agrarios / R.S. Loomis, D.J. Connor Madrid : Mundi-Prensa, 2002
- BB** Urbano Terrón, Pedro. Fitotecnia : ingeniería de la producción vegetal / Pedro Urbano Terrón Madrid : Mundi-Prensa, 2002
- BC** Badía Villas, David. Prácticas de fitotecnia: bases de la producción vegetal / David Badía, Clara Martí, Asunción Usón Zaragoza : Pressas Universitarias de Zaragoza, 2002
- BC** Epstein, Emanuel. Mineral nutrition of plants : principles and perspectives / Emanuel Epstein, Arnold J. Bloom . - 2nd ed Sunderland, Mass. : Sinauer Associates, Inc., 2005
- BC** Fageria, N.K.. Maximizing crop yields / N.K. Fageria New York : Marcel Dekker, 1992
- BC** Guerrero García, Andrés. El suelo, los abonos y la fertilización de los cultivos / Andrés Guerrero García Madrid : Mundi-Prensa, 1990
- BC** Labrador Moreno, Juana. La materia orgánica en los agrosistemas : Aproximación al conocimiento de la dinámica, la gestión y la reutilización de la materia orgánica en los agrosistemas / Juana Labrador Moreno . - 2ªed. corr. y amp. Madrid : Ministerio de Agricultura, Pesca y Alimentación : Mundi-Prensa, D.L.2002
- BC** López Ritas, Julio. El diagnóstico de suelos y plantas : (métodos de campo y laboratorio) / por Julio López Ritas y Julio López Melida. - 4ª ed., rev. y amp. Madrid : Mundi-Prensa, 1990
- BC** Plaster, Edward J. La ciencia del suelo y su manejo / Edward J. Plaster Madrid : Paraninfo, 2000
- BC** Porta Casanellas, Jaime. Edafología para la agricultura y el medio ambiente / Jaime Porta Casanellas, Marta López-Acevedo Reguerín, Carlos Roquero de Laburu . - 3ª ed., rev. y amp. Madrid [etc.] : Mundi-Prensa, 2003

- BC** Saña Vilaseca, Josep. La gestión de la fertilidad de los suelos : fundamentos para la B. Basicinterpretación de los análisis de suelos y la recomendación de abonado / Josep Saña Vilaseca, Joan Carles Moré Ramos, Alfred Cohí Ramón Madrid : Ministerio de Agricultura, Pesca y Alimentación, Secretaría General Técnica, D.L.1996
- BC** Thompson, Louis M.. Los suelos y su fertilidad / Louis M. Thompson, Frederick R. Troeh ; [versión española por Juan Puigdefábregas Tomás] . - 4a ed., [reimpr.] Barcelona [etc.] : Reverté, D.L.1988
- BC** Urbano Terrón, Pedro. Sistemas agrícolas con rotaciones y alternativas de cultivos / P. Urbano Terrón, R. Moro Serrano Madrid : Mundi-Prensa, 1992

The updated recommended bibliography can be consulted in:

<http://psfunizar7.unizar.es/br13/egAsignaturas.php?id=8077>