

Academic Year/course: 2021/22

28947 - Sustainable development and the environment

Syllabus Information

Academic Year: 2021/22

Subject: 28947 - Sustainable development and the environment

Faculty / School: 201 - Escuela Politécnica Superior

Degree: 583 - Degree in Rural and Agri-Food Engineering

ECTS: 6.0

Year: 3 and 4

Semester: Second semester

Subject Type: Optional

Module:

1. General information

2. Learning goals

3. Assessment (1st and 2nd call)

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The methodology followed in this course is oriented towards the achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as:

- Lectures (3 ECTS) and
- practice sessions (3 ECTS).

4.2. Learning tasks

The course includes the following learning tasks::

- Theory sessions (3 ECTS) would be lectures with high participation of the students and will consist of:
 - Teacher lectures on theory contents of the subject.
 - Lectures on study cases
 - Theory sessions will consist of 30 hours of onsite sessions using usually powerpoint presentations.
- Practice Sessions (3 ECTS) will be in two different ways:
 - Field trips. Will take place in sites that are relevant examples of sustainable development.
 - Onsite classroom sessions. Both in plain classrooms and in the computer lab.

Will consist on participative discussion sessions regarding. Sustainability problems, look for bibliography, lecture of the students about their conclusions on their work...

4.3. Syllabus

The course will address the following topics:

Theory program, partly given by the area of ecology:

1. General aspects of sustainable development integrated into environment and engineering.
2. Conservation and sustainable use of biodiversity
3. Valuing natural assets. Natural capital and ecosystem services.
4. Legislation and environmental management. Protected areas. Birds and Habitats directive. Environmental impact assessment.
5. Climate change and agriculture.
6. Ecological restoration.

Practice program, partly given by the area of ecology:

1. *To read and comment on articles on sustainable development*
2. *Search and use specific bibliography*
3. *Research work about sustainable development*

4.4. Course planning and calendar

Calendar, timetable, tutorials and exams will be adjusted to the general academic calendar of Saragossa University and its Technical School.

A presentation on the subject will be done on the first day of lessons.

There will be 4 hours of lectures per week, 2 of theory and 2 of practices, except for the weeks with fieldwork, where the timetable will be modified. Students will be informed previously on this.

Type of activity/ Week	1	2	3	4	5	6	7	8		9	10	11	12	13	14	15	16
On-site activity																	
Theory	2	2	2	2	2	2	2	2			2	2	2	2	2	2	
Problems	2	2	2	2	2	2	2	2			2		2		2		
Laboratory practice					2												
Group work																	
Field visit																8	
Tutorials																	
Evaluation																	
Off-site activity																	
Trabajo individual	2	4	4	4	2	4	4	4	2	9	2	2	2		2		

Group wrok																			
TOTAL	6	8	8	8	8	8	8	8	8	2	9	9	7	9	6	9	10	8	4

4.5. Bibliography and recommended resources

- BB** Chiras, Daniel D.. Environmental science / Daniel D. Chiras . 10th ed Burlington, MA : Jones & Bartlett Learning, cop. 2016
- BB** Ecología y medio ambiente / Teresa Valverde ... [et al.] ; revisión técnica Gabriel Ramos García, Héctor Meraz Larraga . México : Pearson, 2005
- BB** Goleman, Daniel. Inteligencia ecológica / Daniel Goleman ; [traducción, David González Raga] . 1ª ed. Barcelona : Kairós, 2009
- BB** Miller, G.T. (2007). Ciencia Ambiental: Desarrollo Sostenible. Un Enfoque Integral. Thomson
- BB** Nebel, Bernard J.. Ciencias ambientales : ecología y desarrollo sostenible / Bernad J. Nebel, Richard T. Wright ; traducción, Francisco Javier Dávila ; revisión técnica, José Salvador Pantoja M. . 6ª ed. México [etc.] : Prentice Hall, 1999
- BB** Smith, Thomas Michael. Ecología / Thomas M. Smith, Robert Leo Smith. 6a. ed. Madrid [etc.] : Pearson Addison-Wesley, D.L. 2007

LISTADO DE URLs:

EUROPARC España

[<http://www.redeuroparc.org/>]

Ham, S.H. (1992). Environmental Interpretation. A practical guide for people with big ideas and small budgets. Colorado: North American Press

[<http://serceducationvolunteers.files.wordpress.com/2012/12/interpretation-sam-ham1.pdf>]

International Union for Conservation of Nature, IUCN

[<https://www.iucn.org/es>]

Ley 42/2007, de 13 de diciembre, del Patrimonio Natural y de la Biodiversidad

[http://www.boe.es/diario_boe/txt.php?id=BOE-A-2007-21490]

Ley 5/2002, de 4 de abril, de Caza de Aragón

[<http://www.boe.es/boe/dias/2002/05/14/pdfs/A17387-17407.pdf>]

Novo, M. (2009). La educación ambiental, una genuina educación para el desarrollo sostenible / Environmental Education, a genuine education for sustainable development. Revista de Educación, nº extraordinario, 195-217

[http://www.revistaeducacion.mec.es/re2009/re2009_09.pdf]

Pool-Stanvliet, R., Clüsener-Godt, M. (2013). AfriMAB. Biosphere Reserves in Sub-Saharan Africa:

Showcasing Sustainable Development. Pretoria: Department of Environmental Affairs y París: Unesco

[<http://unesdoc.unesco.org/images/0022/002269/226919e.pdf>]

The updated recommended bibliography can be consulted in:

[<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=28947>]