

**NOMBRE DE LA ASIGNATURA O UNIDAD DE APRENDIZAJE.**

**ECOLOGÍA DE SUELOS**

**CICLO  
OPTATIVA**

**CLAVE DE LA ASIGNATURA  
CA-823**

**OBJETIVO(S) GENERAL(ES) DE LA ASIGNATURA**

Develop knowledge and understanding on the processes involved in soil development, soil structure and function and soil management with emphasis on belowground and aboveground interactions and feedbacks by biotic and abiotic processes and cycles and how natural and anthropogenic disturbances affect and interfere with those.

**TEMAS Y SUBTEMAS**

1. **Introduction**
2. **Soil ecology - its history, presence and future**
3. **Plant – Soil interface: the rhizosphere**
4. **Soil microorganisms**
5. **Soil Fauna**
6. **Soil biological processes I**
7. **Soil biological processes II**
8. **Soil Food Webs I**
9. **Soil Food Webs II**
10. **Aboveground – belowground linkages I**
11. **Aboveground – belowground linkages II**
12. **Biodiversity and Soil/Ecosystem Functioning I**
13. **Biodiversity and Soil/Ecosystem Functioning II**
14. **Soils in a globally changing world I**
15. **Soils in a globally changing world II**

**ACTIVIDADES DE APRENDIZAJE**

During the course we will discuss fundamentals of soil ecology including methods of sampling and analysis considering state-of-art-methods. The course should familiarize the students with current concepts and approaches to study soils as central parts of dynamic ecosystems. We approach this by lectures, discussions, required readings, essay writing and student presentations. The students are very much encouraged to discuss their own research projects and thereby participate actively in this course. The student must dedicate 160 h in total to the course; 64 h will be in presence of the teacher and the remaining 96 h will be used for reading scientific articles and writing essays and projects (total credits = 10).

**CRITERIOS Y PROCEDIMIENTOS DE EVALUACION Y ACREDITACION**

The students will be evaluated based on two exams, their presentations of articles, and homework assignments and *ad hoc* discussions, which will be weighted as follow:

Midterm exam	30%
Final Exam	30%
Discussion	10%
Presentation	15%
Short summaries	15%

Therefore, the final rating of the students will be a weighted average. To approve the course, and considering a rating scale from 1.0 to 10.0, the student must score a minimum weighted average of 7.0.

**TEXTBOOKS:**

Coleman, D.C., Crossley, D.A. and P.F. Hendrix 2004. Fundamentals of Soil Ecology. Second Edition. Elsevier Academic Press.

Lavelle, P. and A. V. Spain. 2001. Soil Ecology. Kluwer Academic Press.

Robertson, G.P., D.C. Coleman, C.S. Bledsoe, and P. Sollins. 1999. Standard Soil Methods for Long-Term Ecological Research. Oxford University Press.