

Course information

The Living Soil

SOQ-51306



Department of Soil Quality
Department of Microbiology
Department of Nematology
Department of Phytopathology
Nature Conservation and Plant Ecology group
Organic Farming Systems group



WAGENINGEN UNIVERSITY

Name and code of course

The Living soil
(SOQ-51306; 16C-51SW-Z 6.00 credits; period 4 –
February-March)

Contact person, teachers and examiner

Contact person: Prof. Dr. Ir. Gerlinde De Deyn
(gerlinde.dedeyn@wur.nl; tel. 0317-482123)

Teachers: Prof. Dr. Ir. Gerlinde De Deyn, Prof. Dr. W. de Boer, Dr. Ir. J. Helder, Prof. Dr. W.H. van der Putten, Dr. J. van Ruijven, Prof. Dr. H. Smidt, J.P. van Leeuwen, A. Heijboer, Prof.dr.ir. L. Mommer.

Examiner: Prof. Dr. Ir. Gerlinde De Deyn

Language

English

Assumed prerequisite knowledge

MSc level of thinking and an intermediate/advanced background in soil science or ecology (for instance ENT - 30306 Ecological Aspects of Bio-interactions or SOQ-21806 Soil Quality or SOQ-32806 Biological Interactions in Soils or CSA-20603 Soil-plant interactions or MIB-31306 Microbial Ecology or YBI-30303 Foodweb Ecology and Biodiversity or ESS-31806 Biogeochemical Cycles)

Profile of the course

This course deals with soil ecology from gene to ecosystem. It highlights the role of soil organisms in interaction with their heterogeneous environment in current topics with societal relevance. The subject areas covered will change over time, but key themes are: role of soil ecology in (i) (macro-)ecological theories, (ii) invasions and (iii) global change; (iv) applying soil ecological knowledge in the design of sustainable (agro)ecosystems; (v) soil ecology and ecosystem services; (vi) a systems biology approach to soil ecology.

The first week will be used to bring all students at the same level for the topics dealt with.

Learning outcomes

After completion of the course, students are expected to be able to:

- a. Outline the state of the art in soil ecology
- b. Appraise current concepts and developments in soil ecology as related to ecology in general
- c. Critically evaluate primary literature in soil ecology
- d. Debate cutting-edge issues in soil ecology
- e. Develop new ideas in soil ecology individually and in interactions with fellow students

Learning materials and resources

Lecture PowerPoints, articles, instructions, information on Eduweb/ Blackboard

Educational activities

Self study, tutorials, group work, oral presentations, document writing

Examination

Tutorials (20%), oral presentations (40%) and written document (40%), all to be completed with mark ≥ 5.5 .

Assessment strategy SOQ-51306 The Living Soil

	Student products:				
	a. Answers to tutorial questions	b. Oral presentation	c. Oral presentation	d. Oral presentation	e. Written document (max. 2 A4)
Learning outcomes (figures in table refer to cognitive level: 1=remember; 2= understand; 3= apply; 4= analyze; 5= evaluate; 6= create)					
a. Outline state of the art in soil ecology	1				
b. Appraise current concepts and developments in soil ecology as related to ecology in general		5			
c. Critically evaluate primary literature in soil ecology			5		
d. Debate cutting-edge issues in soil ecology				5	
e. Develop new ideas in soil ecology individually and in interactions with fellow students					6
Grading (% - all components have to be concluded with at least mark 5.5)	10	15	20	25	30
Timing of product delivery and grading:					
a. Hand in on Friday of first week; feedback on Monday mornings of weeks 2-4.	x				
b. Oral presentation on early Wednesday morning		x			
c. Oral presentations on early Thursday morning			x		
d. Elevator pitch on early Friday morning				x	
e. Hand in on Friday afternoon; assessment within one week, based on originality (40%) and logic reasoning (60%)					x