

## BIOR24 Soil Ecology Fall 2011

**Start:** August 29, 9.00 (COMPULSORY)

**Locality:** Raggmossan, Ecology Building, Sölvegatan 37.

Day	Date	Time		Activity	Teacher	Reading
Mon	29/8	9.00-10.30	1L	Introduction + "Fika"	PB	
		10.30-12.00	2L	Soil formation (I) Weathering	HW	
Tue	30/8	9.00-11.00	2L	Soil formation (II)	PAO	A1-5
		11.00-12.00		Soil Topic: Introduction	PAO, PB	
		13.00-14.00		Soil topic: Planning		
Wed	31/8	9.00-12.00	3L	The soil environment	PAO	A6-8
		13.00-17.00		Soil topic 1	PAO, PB	
Thu	1/9	9.00-12.00		Soil topic 2	PAO	A9
Fri	2/9	9.00-10.00	1L	Soil acidity	PAO	A9
		10.00-12.00	2L	N-cycle	EB	A13.1-15, B13, 14
Mo	5/9	9.00-12.00	3L	P cycle, K and micronutrients	PAO	A14-15
		13.00-17.00		Soil topic 3	PAO, PB	
Tue	6/9	9.00-12.00		Soil topic 4	PAO, PB	
		13.00-17.00		Soil topic: Discussion between groups		
Wed	7/9	9.00-12.00	3L	Organic matter and decomposition	EB	A12, B12
		13.00-17.00		Soil topic: Report writing		
Thu	8/9	9.00-12.00		Soil topic: Report writing		
Fri	9/9	9.00-10.30	2 L	Microorganisms in soil	EB	B3
		10.30-17.00		Soil topic : Report writing		
Mo	12/9	9.00-12.00		Soil topic 5: Prepare hearing		
		13.00-16.00	LAB	Planning of lab: Characterization of soil	EB,PAO et al.	C
Tue	13/9	9.00-10.00	1L	Food webs, below and above ground interactions	KH	D
		10.00-12.00	2L	Molecular methods for studying soil ecology	AT	B4
		13.00-16.00		Soil topic 6: Hearing	PAO, PB	C
Wed	14/9	9.00-17.00	LAB	Characterization of soil: Field sampling	EB,PAO et al.	C
Thu	15/9	9.00-	LAB	Characterization of soil	PAO	C
Fri	16/9	9.00-17.00	LAB	Characterization of soil	PAO	C
Mo	19/9	9.00-17.00	LAB	Characterization of soil	EB et al.	C
Tue	20/9	9.00-17.00	1L	Factors for growth I	EB	A12, B12
			LAB	Characterization of soil	EB et al.	C
Wed	21/9	9.00-17.00	2L	Factors for growth II	EB	B: p.43-49, p.136-138
			LAB	Characterization of soil	EB et al.	C
Thu	22/9	9.00-12.00	1L	Energetics I	EB	B9 + p.39-42, 132-134
			LAB	Characterization of soil	EB et al.	C
Fri	23/9	9.00-12.00	LAB	Characterization of soil	EB et al.	C
		13.00-15.00	2L	Energetics II	EB et al.	C
Mo	26/9	9.00-17.00	LAB	Characterization of soil, preparing report		
Tue	27/9	8.30-9.00	LitPro	Introduction to Literature project	PB	

		9.00-12.00	3L	Searching literature in databases	KA	
		13.00-17.00	LAB	Characterization of soil, preparing report		C
Wed	28/9	9.00-15.00	LAB	Presentation of lab reports	EB et al.	
Thu	29/9	9.00-12.00	LitPro	Literature project, finding literature, selecting topic	PB, EB	
Fri	30/9	9.00-12.00	LitPro	Literature project, finding literature, writing outline	PB, EB	
		13.00-15.00	Exam	Oral examination 1	PB, EB	
Mo	3/10	9.00-17.00	LitPro	Submit results from literature search	KA	
Tue	4/10	9.00-17.00	LitPro	Literature project, writing outline		
We	5/10	9.00-11.00	2L	The rhizosphere	EB	A 11-12
		11.00-16.00	LitPro	Submit outlines by 16:00		
Thu	6/10	9.00-	LitPro	Individual feedback on outlines		
Fri	7/10	9.00-16.00	LitPro	Individual feedback on literature search (per.bengtson@mbioekol.lu.se)	KA	
Mo	10/10	10.00-12.00	2 L	Parasitic interaction	AT	D
		13.00-17.00		Biological control		
Tue	11/10	9.00-17.00	L+ LAB	Literature Project	HW, PAO, EH	B10, D
We	12/10	9.00-17.00	L+ LAB	Symbiotic interactions	HW, PAO, EH	B10, D
Thu	13/10	9.00-12.00	LitPro	Literature project		
Fri	14/10	9.00-17.00	LitPro	Literature project		
				Self study for the exam		
Mo	17/10	10.00-12.00	Exam	Oral examination 2	HW, PB	
		13.00-16.00	Research frontiers	Presentation of research at microbial ecology		
Tue	18/10	9.00-16.00	LitPro	Literature project		
We	19/10	9.00-12.00	L+SEM	Soil Erosion	EH	
		13.00-15.00	2L	Bioremediation + Metals	EB	A18.1-7, B:p.423-430
Thu	20/10	9.00-12.00	LitPro	Submission of final text (16.00)		
Fr	21/10	9.00-17.00		Self study for the exam		
Mo	24/10	9.00-17.00	LitPro	Comments on Lit project.		
Tue	25/10	9.00-17.00		Self study for the exam		
Wed	26/10	9.00-17.00	Exam	Written exam		

### Teachers:

PB, Per Bengtson, per.bengtson@biol.lu.se, phone 046 222 37 60 (main teacher)

AT, Anders Tunlid, [anders.tunlid@mbiol.lu.se](mailto:anders.tunlid@mbiol.lu.se)

EB, Erland Bååth, erland.baath@biol.lu.se

EH, Edith Hammer, Edith.Hammer@mbioekol.lu.se

KH, Katarina Hedlund, katarina.hedlund@biol.lu.se

HW, Håkan Wallander, [hakan.wallander@biol.lu.se](mailto:hakan.wallander@biol.lu.se)

PAO, Pål Axel Olsson, Pal\_Axel.Olsson@biol.lu.se  
KA, Kristina Arnebrant, Kristina.Arnebrant@biol.lu.se

**Literature:**

A. The nature and properties of soils, 14 th edition, Authors: Nyle C. Brady, Ray R. Weil. Prentice Hall, Pearson Education, Inc., New Jersey.

B. Soil microbiology, ecology and biochemistry. Third edition. Editor A. Paul, Elsevier , Amsterdam. 2007.

C. Laboratory compendium, provided by the teachers at the start of the course.

D. Extra material, provided by the teachers.