# SLU

# **Department of Soil and Environment**

Version 2020-08-27

## Mv0215, Soils of the world and sustainable water and soil management-2020

Course leader and teacher soils: Erik Karltun 018-671277, 070-6901277, erik.karltun@slu.se

Examiner, Teacher and responsible for water and soil management part: Jennie Barron,

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Course home page: <a href="https://student.slu.se/studier/kurser-och-">https://student.slu.se/studier/kurser-och-</a>

program/kurser/?sprak=en&anmkod=10269.2021

### **Lecture rooms:**

MEKÖL labs: FG-lab, JE-lab are exercise rooms in the MVM- building on ground floor in

the corridor to the left inside the main entrance

C213 and A241= lecture rooms in the BioCenter building

Comp. MVM= computer room in the MVM-building

Comp. lib. = computer rooms in the main library

Sal V – Ulls hus

Sal N – main educational building (Undervisningshuset)

# **Activity:**

\* = exercise that is compulsory

L = lecture

### **Teacher codes:**

EK: Erik Karltun
IW: Ingrid Wesström
JB: Jennie Barron
OA: Omran Alshihabi
LM: Louise Malmquist
TK: Tobias Klöffel
YG: Youen Grusson

### Time table:

Date	Time	Room		Content	Teachers				
August-September									
Week 36									
Mo 31	$10^{30}$ - $12^{30}$	Zoom	*	Course introduction	EK, JB				
	$13^{30}$ - $16^{30}$	Zoom	L	Land degradation and water security for food systems	EK				
					JB				
Tu 1	$10^{30}$ - $12^{30}$	Zoom	L	Factors influencing soil formation	EK				
	$13^{30}$ - $16^{30}$	Zoom	L	Soil erosion processes	OA				
We 2	$09^{15}$ - $12^{00}$	Zoom	L	Minerals and weathering, cation exchange and textural	EK				
				differentiation					
Th 3	$8^{00}$ - $10^{00}$	FG-lab	*	Soil profile description, introduction	EK				
	$10^{30}$ -17	Field	*	Soil profile description - field exercise;	EK				
				Outdoor - bring food and clothes for digging					

Date	Time	Room		Content	Teachers
Fr 4	09 <sup>15</sup> -12	Room C213	L	Soil and water designs and rainwater harvesting	OA
	13 <sup>15</sup> -16	Comp. MVM		Assignment 1. Soil and water design.	OA
	16			Hand in soil profile description (electronic)	
Week 3	1215.16	7	*		EIZ
Mo 7	13 <sup>15</sup> -16	Zoom	~	Soil classification: Diagnostic horizons	EK
Tu 8	8 <sup>15</sup> -12	Zoom	*	Soil classification: Reference soil groups	EK
	13 <sup>15</sup> -15	Zoom	L	Soils in temperate climate, soils strongly conditioned by parent material	EK
We 9	10 <sup>15</sup> -12	FG-lab		Assignment 2: small reservoirs/tanks	OA
WEG	16	1 <sup>-</sup> 1a0		Hand in assignment 1 and 2 (electronic)	OA
Th 10	$08^{15}$ -10	Zoom	L	Soils in tropical climate, manmade soils, polar soils	EK
	10 <sup>15</sup> -12	Zoom	L	Soils in dry climates, soils conditioned by topography	EK
Fr 11	08 <sup>15</sup> -12	Zoom	*	Soil classification: Reference soil groups, introduction to subunits	EK
Week 3	38				
Mo 14	08 <sup>15</sup> -17	Ultuna	*	Excursion I soils	EK, JB
Tu 15	08 <sup>15</sup> -18	Bus	*	Excursion II soils	EK,TK
14 15	00 10	Dus		Execution if some	LIX, IIX
We 16	10 <sup>15</sup> -12	Zoom	L	Levelling and positioning	LM, TK
Th 17	9 <sup>15</sup> -12 <sup>00</sup>	Field	*	Field survey. Levelling and positioning: Outdoor exercise; bring food and clothes for outdoors activities	LM, TK
	13 <sup>15</sup> -15	Field	*	Field survey. Levelling and positioning Outdoor exercise; bring food and clothes for outdoors activities	LM, TK
Fr 18	9 <sup>15</sup> -12 <sup>00</sup>	FG-lab	*	Soil Map of the World, maps and catenas	EK
	13 <sup>15</sup> -17	JE-lab	*	Soil Map of the World, maps and catenas	EK
Week 3	39				
Mo 21		JE-lab	*	Soil Map of the World, maps and catenas	EK
	13 <sup>15</sup> -16	JE-lab	*	Soil Map of the World, maps and catenas	EK
Tu 22	13 <sup>15</sup> -17	FG-lab	*	Soil Map of the World, maps and catenas, oral presentation	
We 23	09 <sup>15</sup> -12 <sup>00</sup>	Zoom	L	Hydromechanics, flow principles in channels and pipes	YG
Fr 25	09 <sup>15</sup> -10	Zoom		Opportunities for questions before Soils of the world exam	EK
Week 4					
Mo 28	$8^{00} - 11^{00}$	Sal V		Examination: Soils of the world	
Tu 29	915-1200	Zoom		Assignment 3. Hydromechanics.	YG
/	13 <sup>15</sup> -16 <sup>00</sup>	Zoom	L	Land drainage principles and methods	IW
We 30	09 <sup>15</sup> -12	Zoom	L	Subsurface drainage	IW
0 4 1	16 <sup>00</sup>			Hand in Assignment 3 (electronic)	
Octobe Th 1	9 <sup>15</sup> -11	Comm	l	Assignment 4: Estimating crop water requirement	LM
111 1	) -11	Comp. lib.		Assignment 4. Estimating crop water requirement	TIVI

Date	Time	Room		Content	Teachers			
F 2	1.6							
Fr 2 Week 4	16			Hand in Assignment 4 (electronic)				
Mo 5	09 <sup>15</sup> - 12	Zoom	L	Irrigation techniques and design	JB			
	13 <sup>15</sup> -15	Zoom		Assignment 5. Irrigation techniques and design.	TK			
	4.5							
Ti 6	$11^{15}$ - $12^{00}$	Zoom		Opportunities for questions before land &water mgmt.	JB			
	16			exam				
Fr 9	16 8 <sup>00</sup> -11 <sup>00</sup>	Sal N		Hand in Assignment 5 (electronic)  Examination: Sustainable water and soil management	JB			
Week 4		Dai IV		Examination. Sustamable water and son management	JD			
Mo 12	10 <sup>15</sup> -12	JE-lab	*	Project work introduction: Interventions to improve	JB			
				sustainability and productivity				
	13-16			Project work				
T. 12	015 1 600	TF 1.1		CONCLUE TA TIONS C	ID I M			
Tu 13	9 <sup>15</sup> -16 <sup>00</sup>	JE-lab		CONSULTATIONS for project	JB LM			
We 14	9-16			Project work				
WC 14	<i>y</i> -10			1 Toject work				
Th 15	9-16			Project work				
Fr 16	9-16		*	Project work: hand in part 1 at 1600 hrs				
Week 4								
Mo 19	9-16			Project work				
Tu 20	9-12			Project work				
1420	13-16	FG-lab	*	Project work Consultation for project part 2	JB,LM			
					,			
We 21	9-16			Project work				
Th 22	9-16			Project work				
Fr 23	9-16			<i>Project work</i> , Project part 1 &2 report submission 16 <sup>00</sup>	JB,LM			
Week 4				170ject work, 110ject part 1 &2 report submission 10	JD,LWI			
Mo 26				<i>Project work</i> , preparation for presentation and opposition				
Tu 27	13-16			Project work preparation for presentation and opposition				
*** ***	10.12	TD 1.1			TD 1.16			
We 28	10-12	JE-lab	*	Final presentation of project work part 1&2	JB,LM			
Th 29	10-12	JE-lab	*	Final presentation of project work part 1&2	JB,LM			
111 25	13 <sup>15</sup> -15	JE-lab	*	Course evaluation	JB, EK			
	November							
Th 5		TBD		Re-examination soils of the world				
En 6		TDD	_	Do examination exetainable sector and a discussion of				
Fr 6		TBD		Re-examination sustainable water and soil management				
June 2	022	TBD		Re-examination both soils and water	+			
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