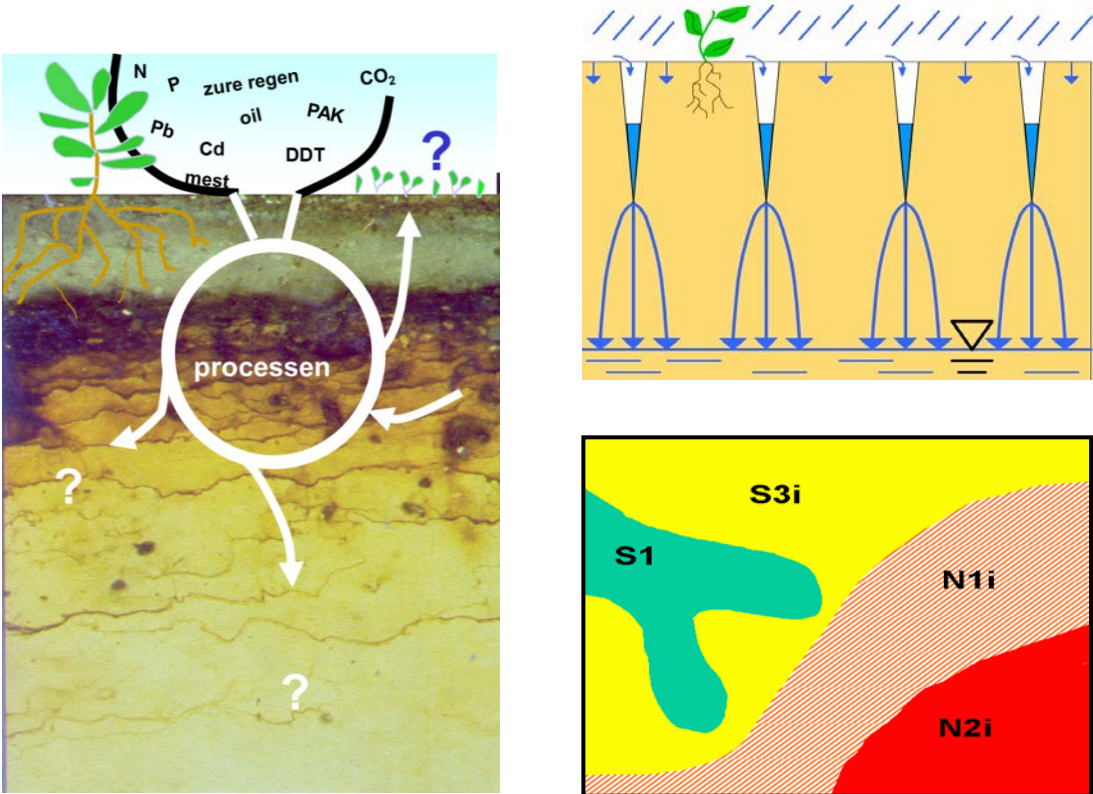


# Soil-2

SOQ-22803



Department of Soil Quality  
[www.wageningenur.nl/sog](http://www.wageningenur.nl/sog)

## Soil 2 (SOQ-22803)

Contributing chair groups:	Soil chemistry and chemical soil quality (SOQ-C) Soil biology and biological soil quality (SOQ-B) Soil Geography and Landscape (SGL) Soil physics and Land Management (SLM)
Language of instruction:	Dutch
Study load / Credit points:	3 ECTS
Components:	Lectures 1.5 ECTS (12 lectures of 1 h) Tutorials 0.7 ECTS (6 tutorials of 1 h) Practical 0.5 ECTS (2 x 4 hours) Self-study 0.3 ECTS
Period/time:	period 4 (February - March), afternoon (13:30 – 17:15 h)
Contact person & examiner:	M.R. Hoosbeek
Lecturers:	M.R. Hoosbeek, G. Heuvelink, K. Metselaar
Examination:	written closed book test; partly multiple choice questions; partly open questions and simple calculations; practicals are obligatory to pass the exam. <i>Successfully passed practicals remain valid for a period of 5 years.</i>
Assumed knowledge:	Soil 1 (SGL-11303)
Continuation courses:	SOQ-22306 Chemical Processes in Soil, Water, Atmosphere SOQ-21806 Soil Quality SOQ-21306 Soil Pollution and Soil Protection SGL-33306 Geology and landscapes of the world SLM-21306 Subsurface Solute Transport
Learning materials :	Inleiding Bodem (part 1, 2, 3) from WURshop
Website for textbook:	<a href="http://www.bodemenwater.wur.nl/inleidingbodem">www.bodemenwater.wur.nl/inleidingbodem</a>
For whom?	The course is compulsory for BBW, BIL, BMH
Information:	M.R. Hoosbeek: marcel.hoosbeek@wur.nl

## Profile of the course:

This course focusses on soil processes and land evaluation. The soil is characterized as a buffering system with water and reactive soil particles affecting mobility and bioavailability of nutrients and contaminants. This affects soil organisms, plants and groundwater and thus soil quality. Processes like (unsaturated) water flow, leaching, adsorption, precipitation and biodegradation are introduced. Also soil inventory, soil classification using the international FAO-system, making soil maps and land evaluation are dealt with. Tutorials support the lectures with assignments. Practicals focussing on chemical soil characterisation, soil-water interactions and soil classification improve relevant practical skills and illustrate important topics.

## Learning outcomes:

After successful completion of this course students are expected to be able to:

- identify and explain the basic physical, chemical and biological processes in soils;
- describe and apply basic approaches in soil quality and land evaluation;
- describe and quantify (analyse) important soil characteristics and soil processes;
- apply basic numerical methods to calculate (ground)water flow, compound distribution and transport in soil-water systems.

## Activities:

- prepare and attend lectures and tutorials;
- answer assignments in textbook and tutorials;
- actively participate in the practical's.

## Assessment strategy

assessors: M. Hoosbeek, G. Heuvelink, K. Metselaar

Assessment of learning outcomes

Learning outcome	tutorials	Practical*	Exam**
identify and explain the basic physical, chemical and biological processes in soils	x	x	x
describe and apply basic approaches in soil quality and land evaluation	x	x	x
describe and quantify (analyse) important soil characteristics and soil processes	x	x	x
apply basic numerical methods to calculate (ground)water flow, compound distribution and transport in soil-water systems	x	x	x
<b>Contribution to final mark (%)</b>	<b>0</b>	<b>0</b>	<b>100</b>

\* Successful practical's remain valid for a period of 5 years. Practicals are obligatory.

\*\* Minimal score 5.5

*Schedule for lectures, tutorials and practical's*

Lecturers:	M. Hoosbeek	Soil Quality (MH)
	G. Heuvelink	Soil geography and landscape (GH)
	K. Metselaar	Soil physics and land management (KM)
	J. Schoorl	Soil geography and landscape (JS)

<p><b>Schedule:</b> period 4 (week 25, 26 en 27)</p> <p>Lectures in room C222</p> <p>Tutorials in room P635</p> <p>assignments in textbook part 3 and on Blackboard</p> <p>Practical Soil Quality: room P46 (Atlas, room C209)</p> <p>Practical Soil classification: WSM (Gaia)</p> <p><i>WSM: World Soil Museum (ISRIC)</i></p> <p>Practical manuals will be handed out.</p>	<p>hour 6: 13:30 – 14:15 h</p> <p>hour 7: 14:30 – 15:15 h</p> <p>hour 8: 15:30 – 16:15 h</p> <p>hour 9: 16:30 – 17:15 h</p>
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**Groups** (max 30 students per group):

*group 1: ...*

*group 2: ...*

*group 3: ...*

*group 4: ...*

*group 5: ...*

*group 6: ...*

**Week 25** L = lecture, T = Tutorial, P = practical

	<i>hour</i>		<i>Lecturer</i>	<i>activity</i>	<i>group</i>	<i>room</i>
Mo	8	L	MH	Introduction (Ch1), Quality indicators (Ch7.1)	all	C222
	9	L	MH	Reactive soil particles (Ch5.2)	all	C222
Tue	6	L	KM	Water in the soil (Ch4)	all	C222
	7	L	KM	Water in the soil (Ch4)	all	C222
	8-9	P	MH	Practical Soil quality	group 6	P46
We	6	T	MH	Reactive soil particles	group 5,4	P635
	7	T	KM	Water in the soil	group 5,4	P635
	8-9	P	MH	Practical Soil quality	group 6	P46
Thu	6	T	MH	Reactive soil particles	group 1,6	P635
	7	T	KM	Water in the soil	group 1,6	P635
	8-9	P	MH	Practical Soil quality	group 5	P46
Fri	6	T	MH	Reactive soil particles	group 2,3	P635
	7	W	KM	Water in the soil	group 2,3	P635
	8-9	P	MH	Practical Soil quality	group 5	P46

**Week 26**

	<i>hour</i>		<i>lecturer</i>	<i>activity</i>	<i>group</i>	<i>room</i>
Mo	8	L	MH	Adsorption (Ch5.2) & salt (Ch3.10.5, H7.12)	all	C222
	9	L	GH	Soil classification (Ch3.11.3)	all	C222
Tue	6	L	GH	Soil inventory (Ch6.1-6.4)	all	C222
	7	L	GH	Land evaluation (Ch8)	all	C222
	8-9	P	MH	Practical Soil quality	group 1	P46
We	6	T	GH	Soil inventory	group 2,5	P635
	7	T	GH	Land evaluation	group 2,5	P635
	8-9	P	MH	Practical Soil quality	group 1	P46
	6-9	P	JS	Soil classification + land evaluation	group 4	WSM
Thu	6	T	GH	Soil inventory	group 6,1	P635
	7	T	GH	Land evaluation	group 6,1	P635
	8-9	P	MH	Practical Soil quality	group 2	P46
	6-9	P	JS	Soil classification + land evaluation	group 3	WSM
Fri	6	T	GH	Soil inventory	group 3,4	P635
	7	T	GH	Land evaluation	group 3,4	P635
	8-9	P	MH	Practical Soil quality	group 2	P46
	6-9	P	JS	Soil classification + land evaluation	group 6	WSM

**Week 27**

	<i>hour</i>		<i>lecturer</i>	<i>activity</i>	<i>group</i>	<i>room</i>
Mo	8	L	MH	Minerals, decay + N-transfer (Ch5.2, -4)	all	C222
	9	L	MH	Mass transport + mobility (Ch5.5)	all	C222
Tue	6	L	MH	Soil quality aspects (Ch7)	all	C222
	7	L	MH	Soil protection and remediation (Ch9)	all	C222
	8-9	P	MH	Practical Soil quality	group 3	P46
We	6	T	MH	Adsorption, Minerals, N-transfer	group 4,6	P635
	7	T	MH	Mass transport and Soil quality	group 4,6	P635
	8-9	P	MH	Practical Soil quality	group 3	P46
	6-9	P	JS	Soil classification + land evaluation	group 5	WSM
Thu	6	T	MH	Adsorption, Minerals, N-transfer	group 2,3	P635
	7	T	MH	Mass transport and Soil quality	group 2,3	P635
	8-9	P	MH	Practical Soil quality	group 4	P46
	6-9	P	JS	Soil classification + land evaluation	group 1	WSM
Fri	6	T	MH	Adsorption, Minerals, N-transfer	group 5,1	P635
	7	T	MH	Mass transport and Soil quality	group 5,1	P635
	8-9	P	MH	Practical Soil quality	group 4	P46
	6-9	P	JS	Soil classification + land evaluation	group 2	WSM

