

PhD school (UL)

Institution	Topics of interest	Expected period of the course
University of Latvia	Methods and tools for soil state and function at different scales	Autumn 2022 (5 days in September)
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Issue	Description	
Name	Soil Systems – <i>From Field to Model: peat soil study, mapping, statistical analysis and modelling</i>	
Contact person	Raimonds Kasparinskis (raimonds.kasparinskis@lu.lv), Kristīne Afanasjeva (kristine.afanasjeva@lu.lv)	
Credits	2-3 ECTS (1 ECTS = 25-30 hours)	
Prerequisites	This course is primarily intended for PhD students from EJP SOIL affiliated institution, but is open to other participants from non-EJP institutions.	
Objectives	<p>The main objective of the course is to show full research process: literature studying - fieldwork - analysis - result presentation.</p> <p>The aim of this course is to:</p> <ul style="list-style-type: none"> • give an overall knowledge about peat soils and related policies, as well, current state in the world and in Latvia; • discuss peat soil mapping challenges at different scales and potential solutions; • gain practical skills working with peat soils during the fieldwork; • analyse gathered information about peat soils, create a map and model peat soil spatial distribution or/and CO₂ emissions. 	
Content/ Key components/ elements	<p>Peat soils are formed by the natural accumulation of partially decayed biomass and are the largest reserves of organic carbon. Peat soils provide many important ecosystem services, including water regulation, biodiversity conservation, and carbon sequestration and storage. In European countries drained peat soils used for agriculture are a considerable source of greenhouse gas emissions. Since emissions from this source have high mitigation potential, they will likely be a focus of the European Union's future climate goals. Therefore, more knowledge about peat soil current state and distribution at different scales are crucial for further policy and decision making.</p>	
Learning outcomes	<p>After the course participants will be able to:</p> <ul style="list-style-type: none"> • <u>define</u> peat soil, main challenges and potential policy targets; • <u>identify</u> and <u>describe</u> peat soil according the WRB classification; • <u>apply</u> offered methods and independently carry out fieldwork; • <u>analyse</u> data gathered during fieldwork, create model and do statistical analysis; • <u>compare</u> analyses results between different groups; • <u>evaluate</u> modelled peat soil distribution, as well, potential CO₂ emissions from different ecosystems and soil types; • <u>create</u> a presentation about conducted research, <u>develop</u> proposals for the further use of peat soil. 	

Soil Systems course(UL) – workshop program

Option 1: face to face

Monday		Thursday	
9:00 – 9:30	Welcome speech and detailed information about course (R. Kasparinskis, UL)	9:00 – 10:00	Lecture
9:30 – 10:30	Lecture	10:00 – 10:15	Questions and discussion
10:30 – 10:45	Questions and discussion	10:15 – 10:30	Coffee break
10:45 – 11:00	Coffee break	10:30 – 12:00	Practical work
11:00 – 12:00	Lecture	12:00 – 13:00	Lunch
12:00 – 12:15	Questions and discussion	13:00 – 14:00	Lecture or Practical work
12:15 – 13:15	Lunch	14:00 – 14:15	Questions and discussion
13:15 – 14:15	Seminar (Part 1)	14:15 – 14:30	Coffee break
14:15 – 14:30	Coffee break	14:30 – 16:00	Practical work
14:30 – 15:30	Seminar (Part 2)		
15:30 – 16:00	Seminar result presentation and final discussion		
Tuesday		Friday	
8:00 – 10:00	Rīga-Lodesmuiža	9:00 – 10:00	Lecture
10:00 – 11:00	Introduction lecture about fieldwork	10:00 – 10:15	Questions and discussion
11:00 – 11:30	Break	10:15 – 10:30	Coffee break
11:30 – 14:00	Fieldwork	10:30 – 12:00	Group presentation preparation
14:00 – 15:00	Lunch		preparation
15:00 – 17:00	Fieldwork	12:00 – 13:00	Lunch
17:00 – 18:00	Discussion about fieldwork results	13:00 – 15:00	Final presentation and discussion
Wednesday			
8:00 – 8:45	Division into groups, explanation of task		
8:45 – 9:00	Break		
9:00 – 12:00	Fieldwork (work in groups)		
12:00 – 13:00	Lunch		
13:00 – 15:30	Fieldwork (work in groups)		
16:00 – 18:00	Lodesmuiža - Rīga		

Option 2: online

Monday		Thursday	
9:00 – 9:30	Welcome speech and detailed information about course (R. Kasparinskis, UL)	9:00 – 10:00	Lecture
9:30 – 10:30	Lecture	10:00 – 10:15	Questions and discussion
10:30 – 10:45	Questions and discussion	10:15 – 10:30	Coffee break
10:45 – 11:00	Coffee break	10:30 – 12:00	Practical work
11:00 – 12:30	Seminar	12:00 – 13:00	Lunch
12:30 – 13:30	Lunch	13:00 – 14:00	Practical work
13:30 – 14:30	Lecture	14:00 – 14:15	Questions and discussion
14:30 – 14:45	Questions and discussion	14:15 – 14:30	Coffee break
14:45 – 15:00	Coffee break	14:30 – 16:00	Practical work
15:00 – 16:30	Seminar		
Tuesday		Friday	
9:00 – 10:00	Lecture	9:00 – 10:00	Lecture
10:00 – 10:15	Questions and discussion	10:00 – 10:15	Questions and discussion
10:15 – 10:30	Coffee break	10:15 – 10:30	Coffee break
10:30 – 12:00	Seminar	10:30 – 12:00	Group presentation preparation
12:00 – 13:00	Lunch	12:00 – 13:00	Lunch
13:00 – 14:00	Lecture	13:00 – 15:00	Final presentation and discussion
14:00 – 14:15	Questions and discussion		
14:15 – 14:30	Coffee break		
14:30 – 16:00	Seminar		
Wednesday			
9:00 – 10:00	Lecture		
10:00 – 10:15	Questions and discussion		
10:15 – 10:30	Coffee break		
10:30 – 12:00	Seminar		
12:00 – 13:00	Lunch		
13:00 – 14:00	Lecture		
14:00 – 14:15	Questions and discussion		
14:15 – 14:30	Coffee break		
14:30 – 16:00	Seminar		