

	Lecture/Discussion
	Self work
	Lectures together with Plant Pathology course
	Lab work/field trips

Ecology & Management of Diseases and Pests of Forest Trees

SG0225

Week	Monday	Tuesday	Wednesday	Thursday	Friday
36	31-Aug-2020	1-Sep-2020	2-Sep-2020	3-Sep-2020	4-Sep-2020
Time					
9:30-10:00	Introduction to the course (AM) <i>via Zoom</i>	Introduction to top assignments (AM,JS)	Preparation for top assignments	Preparation for top assignments	Preparation for top assignments
10:00-10:30	Break	Break	Break	Break	Break
10:30-12:00	General forest pathology lecture (JS)	General insect lecture (MKL,GN)	Climate change and pest insects (HB)	Climate change and pathogens (JS)	Preparation for top assignments
12:00-13:00	Lunch	Lunch	Lunch	Lunch	Lunch
13:00-14:30	Fungal Pathogens: Systematics of the fungal kingdom (DFJ)	Canker diseases (JS)		Introduction to plant viruses, plant virology (AK)	Preparation for top assignments
14:30-15:00	Break	Break		Break	Break
15:00-16:00	Fungal Pathogens: Systematics of the fungal kingdom (DFJ)	Fungal pathogens, disease cycles, survival and spread (BA)		Preparation for top assignments	Preparation for top assignments

Week	Monday	Tuesday	Wednesday	Thursday	Friday
37	7-Sep-2020	8-Sep-2020	9-Sep-2020	10-Sep-2020	11-Sep-2020
Time	<i>In Uppsala</i>	<i>In Uppsala</i>	<i>In Uppsala</i>	<i>In Uppsala</i>	<i>In Uppsala</i>
9:00-10:00	Introduction to the Metabarcoding project (KC) VHC	Entomology field trip (MJ)	Forest pathology field trip (AM,JS)	DNA work (HV) BÖL	Gel electrophoresis (HV) BÖL
10:00-10:30	Break	Break	Break	Break	Break
10:30-12:00	Introduction to the Metabarcoding project (KC) VHC	Entomology field trip (MJ)	Forest pathology field trip (AM,JS)	DNA work (HV) BÖL	Diagnostics of tree diseases (AM) BÖL
12:00-13:00	Lunch	Lunch	Lunch	Lunch	Lunch
13:00-14:30	Introduction to the Metabarcoding project (KC) VHC	Entomology field trip (MJ)	Forest pathology field trip (AM,JS)	DNA work (HV) BÖL	
14:30-15:00	Break	Break	Break	Break	
15:00-16:00	Introduction to the Metabarcoding project (KC) VHC	Entomology field trip (MJ)	Forest pathology field trip (AM,JS)	DNA work (HV) BÖL	

Week	Monday	Tuesday	Wednesday	Thursday	Friday
38	14-Sep-2020	15-Sep-2020	16-Sep-2020	17-Sep-2020	18-Sep-2020
Time			Uppsala	Uppsala	
9:00-10:00	Plant disease resistance (JY)	Molecular basis of defence & resistance breeding (ME) <i>via Zoom</i>	Preparation for top assignments	Preparation for top assignments	Work on the Metabarcoding project
10:00-10:30	Break	Break	Beak	Beak	Break
10:30-12:00	Introduction to the Gene for Gene hypothesis (BA)	Plant pathogenic bacteria Dr. Minna Pirhonen, Univ. of Helsinki	Preparation for top assignments	Preparation for top assignments	Work on the Metabarcoding project
12:00-13:00	Lunch	Lunch	Lunch	Lunch	Lunch
13:00-14:30	Molecular basis of conifer defence against pathogens (ME)	Molecular characterisation of fungal pathogens (MK)		Preparation for top assignments	Work on the Metabarcoding project
14:30-15:00	Break	Break		Beak	Break
15:00-16:00	Resistance breeding in trees (ME)	Preparation for top assignments		Preparation for top assignments	Work on the Metabarcoding project

Week	Monday	Tuesday	Wednesday	Thursday	Friday
39	21-Sep-2020	22-Sep-2020	23-Sep-2020	24-Sep-2020	25-Sep-2020
Time					
9:00-10:00	Discussion: global change and pests & diseases (HB,JS) <i>via Zoom</i>	Fungal detection and monitoring (JS)	Introduction to case studies (AM,JS)	Preparation for top assignments	Work on the Metabarcoding project
10:00-10:30	Break	Break	Break	Break	Break
10:30-12:00	How pathogens/insect attack plants; The molecular basis of plant defense (MD)	Plant pathogenic nematodes (MV)	Rust diseases (BS)	Moose damage (LE)	Work on the Metabarcoding project
12:00-13:00	Lunch	Lunch	Lunch	Lunch	Lunch
13:00-14:30	Preparation for top assignments	Preparation for top assignments		Preparation for top assignments	Work on the Metabarcoding project
14:30-15:00	Break	Break		Break	Break
15:00-16:00	Preparation for top assignments	Preparation for top assignments		Preparation for top assignments	Work on the Metabarcoding project

Week	Monday	Tuesday	Wednesday	Thursday	Friday
40	28-Sep-2020	29-Sep-2020	30-Sep-2020	1-Oct-2020	2-Oct-2020
Time					
9:00-10:00	Epidemiology (AB)	Ash dieback in Europe (AM)	Invasive pathogens (JS)	Invasive pests (MS)	Work on the Metabarcoding project
10:00-10:30	Break	Break	Break	Break	Break
10:30-12:00	Grammeniella disease (ES)	Damping off, root pathology and soil born pathogens (DFJ)	Predicting and forecasting forest diseases (JS)	Invasive species and new emerging diseases (JS)	Work on the Metabarcoding project
12:00-13:00	Lunch	Lunch	Lunch	Lunch	Lunch
13:00-14:30	Forest Phytophthoras (MR)	Root rot from practice to genomics and back again (JS)		Biological control of root-rot (AM)	Work on the Metabarcoding project
14:30-15:00	Break	Break		Break	Break
15:00-16:00	Dutch elm disease (AM)	Forest tree nursery problems (AM)		Diplodia disease (LB)	Work on the Metabarcoding project

Week	Monday	Tuesday	Wednesday	Thursday	Friday
41	5-Oct-2020	6-Oct-2020	7-Oct-2020	8-Oct-2020	9-Oct-2020
Time					
9:00-10:00	Introduction to Skogsskada exercise (JS)	Fungi-insect interactions (RV)	Work on case studies	Student presentation of top assignments <i>via Zoom</i>	Student presentation of top assignments <i>via Zoom</i>
10:00-10:30	Break	Break	Break	Break	Break
10:30-12:00	Skogsskada exercise	Forecasting of plant disease epidemics and the need for pesticide spray (BA)	Work on case studies	Student presentation of top assignments <i>via Zoom</i>	Student presentation of top assignments <i>via Zoom</i>
12:00-13:00	Lunch	Lunch	Lunch	Lunch	Lunch
13:00-14:30	Skogsskada exercise	Mechanical damage and pathogen attack (RV)		Student presentation of top assignments <i>via Zoom</i>	Student presentation of top assignments <i>via Zoom</i>
14:30-15:00	Break	Break		Break	Break
15:00-16:00	Skogsskada exercise	Chemical disease control (BA)		Preparation for pathology text 1	Preparation for pathology text 1

Week	Monday	Tuesday	Wednesday	Thursday	Friday
42	12-Oct-2020	13-Oct-2020	14-Oct-2020	15-Oct-2020	16-Oct-2020
Time					
9:00-10:00	Discussion on Pathology text 1 (RL) via Zoom	Preparation for entomology text 1	Discussion on Entomology text 1 (XZ) via Zoom	Work on case studies	Preparation for pathology text 2
10:00-10:30	Break	Break	Break	Break	Break
10:30-12:00	Biological disease control using microbial BCAs (DFJ)	Preparation for entomology text 1	Submitting metabarcoding project reports	Work on case studies	Preparation for pathology text 2
12:00-13:00	Lunch	Lunch	Lunch	Lunch	Lunch
13:00-14:30	Pathogens and Mycorrhiza (AD)	Preparation for entomology text 1		Work on case studies	Preparation for pathology text 2
14:30-15:00	Break	Break		Break	Break
15:00-16:00	Gender & equality aspects in forestry (AM)	Preparation for entomology text 1		Work on case studies	Preparation for pathology text 2

Week	Monday	Tuesday	Wednesday	Thursday	Friday
43	19-Oct-2020	20-Oct-2020	21-Oct-2020	22-Oct-2020	23-Oct-2020
Time					
9:00-10:00	Discussion on Pathology text 2 (RL) via Zoom	Preparation for entomology text 2	Discussion on Entomology text 2 (KBN, DC) via Zoom	Pests and diseases in southern Europe (JS)	Work on case studies
10:00-10:30	Break	Break	Break	Break	Break
10:30-12:00	Conflicts nature conservation-forest protection (MS)	Preparation for entomology text 2	Abiotic damages (AM)	Tree stress and complex diseases (JS)	Work on case studies
12:00-13:00	Lunch	Lunch	Lunch	Lunch	Lunch
13:00-14:30	Work on case studies	Preparation for entomology text 2		Work on case studies	Work on case studies
14:30-15:00	Break	Break		Break	Break
15:00-16:00	Work on case studies	Preparation for entomology text 2		Work on case studies	Work on case studies

Week	Monday	Tuesday	Wednesday	Thursday	Friday
44	26-Oct-2020	27-Oct-2020	28-Oct-2020	29-Oct-2020	30-Oct-2020
Time					
9:00-10:00	Student case study presentations via Zoom	Student case study presentations via Zoom	Work on exam questions	Work on exam questions	Work on exam questions
10:00-10:30	Break	Break	Break	Break	Break
10:30-12:00	Student case study presentations via Zoom	Student case study presentations via Zoom	Work on exam questions	Work on exam questions	Work on exam questions
12:00-13:00	Lunch	Lunch	Lunch	Lunch	Lunch
13:00-14:30	Student case study presentations via Zoom	Student case study presentations via Zoom		Work on exam questions	Work on exam questions
14:30-15:00	Break	Break		Break	Break
15:00-16:00	Work on case studies	Work on exam questions		Work on exam questions	Handing in exam

Note: smaller changes in the course schedule may still occur.

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