

	Day	Date	Hour	Place	Content	Lecturer / responsible	
March	Tuesday	25	08:15-09:00	Course Lab, EcoC	Introduction, registration, roll-call, study advice	Merko Vaga	O
			09:15-10:00	Tamm room, EcoC	Introduction, roll-call	Nilla Nilsdotter-Linde, Horacio Gonda	O
			10:15-12:00	Tamm room, EcoC	Lecture: Introduction - ruminant metabolism and feed analyses	Horacio Gonda	
			13.15-17.00	Tamm room, EcoC	Lecture: Plant species utilised and their characteristics	Nilla Nilsdotter-Linde	
					Multiple choice test 1 "Crop science" opens in Canvas	Opens 25 March- closes 7 April	
	Wednesday	26	09:15-10:00	Tamm room, EcoC	Introduction to group assignment 1: Formulating seed mixtures: Work with group assignment 1	Nilla Nilsdotter-Linde	O
			10:15-12:00	Tamm room, EcoC	Lecture: Crop production and quality dynamics	Anne-Maj Gustavsson	
	Thursday	27	09:15-11:00	Loftets Hörsal, Ladugården	Lecture: Combining forage species in a seeding mixture	Nilla Nilsdotter-Linde	
			11:15-12:00	Loftets Hörsal, Ladugården	Lecture: Harvest strategy in a ley	Magnus Halling	
			13:15-17:00	Room 08, 09 - VHC-5, Room 13, 14, 15, 16, 17 - VHC-4	Work with group assignment 1 + reading MCT 1 "Crop science"	Nilla Nilsdotter-Linde	O
Friday	28	10:15-12:00	Lennart Kenne´s Room, BioC	Lecture: Ley fertilisation	Pernilla Kvarmo (Zoom)		
		13:15-17:00	Room 08, 09 - VHC-5, Room 13, 14, 15, 16, 17 - VHC-4	Work with group assignment 1 + reading MCT 1 "Crop science"	Nilla Nilsdotter-Linde	O	
March	Monday	30	09:15-12:00	Framtiden, MVM	Lecture: Silage making	Rolf Spörndly	
			13:15-17:00	Room 08, 09, 10 - VHC-5, Room 13, 14, 15, 16 - VHC-4	Work with group assignment 1 + reading MCT 1 "Crop science"		O
April	Tuesday	1	08:15-10:00	Dvalin, VHC	Lecture: Maize as a forage crop, Swedish experiences	Magnus Halling	
			10:00-12:00	Room 08, 09, 10 - VHC-5, Room 13, 14, 15, 16 - VHC-4	Work with group assignment 1 + reading MCT 1 "Crop science"		O
			17:00		Group assignment 1 - formulation seeding mixtures - deadline for reporting on Canvas		
					MCT 2 "Conservation" opens in Canvas	Opens 1 April- closes 10 April	
	Wednesday	2	09:15-10:00	Lennart Kenne´s Room, BioC	Lecture: Nutrient balances on livestock farms	Eva Salomon	
			10:15-12:00	Lennart Kenne´s Room, BioC	Lecture: Organic manure	Eva Salomon	
	Thursday	3	10:15-12:00	Lennart Kenne´s Room, BioC	Lecture: Silage quality	Rolf Spörndly	
			13:15-15:00	Särimner, VHC	Lecture: Malfermentations	Rolf Spörndly	
			15:15-17:00	Room 09, 10 - VHC-5, Room 13, 14, 15, 16, 17 - VHC-4	Group assignment 1 - formulation seeding mixtures - prepare the oral presentation		
	Friday	4	09:15-12:00	Särimner, VHC	Report of Group assignment 1	Nilla Nilsdotter-Linde & Magnus Halling	O
13:15-17:00				Self-study			
	Monday	7	09:15-10:00	Sal X	Introducing laboratory videos and lab manuals	A. Gumucio, H. Gonda	
			10:15-12:00	Sal X	Lecture: Ruminant metabolism & research methods	Merko Vaga	
			13:15-15:00	Sal X	Introduce simulation Lab 1 and Lab 2: Sampling preparation and chemical analyses:	A. Gumucio, M. Vaga	
					MCT 1 "Crop science" closes at midnight		

April	Tuesday	8	09:15-12:00	Zoom	Lecture: Sampling, preparation, DM, ash, <i>in vitro</i> digestibility of the organic matter (IVDOM), and methods to estimate enteric methane emissions	Mohammad Ramin	
			13:15-15:00	Sal X	Lecture: Fibre analyses & digestibility methods	H. Gonda	
	Wednesday	9	9:00-12:00	THC (exHUV), VHC	IVDOM – weighing	A. Gumucio, Camilla A.	O
	Thursday	10	8:00-1100	THC (exHUV), VHC	Group 1; IVDOM incubation starts // Students revise other’s calculations	A. Gumucio, Camilla A.	O
			10:00-13:00	THC (exHUV), VHC	Group 2; IVDOM incubation starts // Students revise other’s calculations	A. Gumucio, Camilla A.	O
			12:00-15:00	THC (exHUV), VHC	Group 3; IVDOM incubation starts // Students revise other’s calculations	A. Gumucio, Camilla A.	O
			14:00-17:00	THC (exHUV), VHC	Group 4; IVDOM incubation starts // Students revise other’s calculations	A. Gumucio, Camilla A.	O
					MCT 2 "Conservation" closes at midnight		
	Friday	11	09:15-12:00	Sal T	Discussion on sample preparation, and chemical analyses	A. Gumucio, H. Gonda	
April	Monday	14	09:00-12:00	THC (exHUV), VHC	IVDOM – filtering and drying Groups 1 and 3	A. Gumucio, Camilla A.	O
			13.00-16.00	THC (exHUV), VHC	IVDOM – filtering and drying Groups 2 and 4	A. Gumucio, Camilla A.	O
			09:00-16:00	THC (exHUV), VHC	Summing up DM, ash, and NDF: Discussion on crude protein and fat calculations and results (simultaneously with the lab work)	A. Gumucio, Merko Vaga, H. Gonda	O
	Tuesday	15	09:00-12:00	THC (exHUV), VHC	IVDOM- final weighing and ash (DM) Groups 1 & 3	A. Gumucio, Camilla A.	O
			13:00-16:00	THC (exHUV), VHC	IVDOM- final weighing and ash IVDOM Groups 2 & 4	Jorge André	O
	Wednesday	16	09:15-11:00	Sal T	Lecture: Nitrogen metabolism (ruminants)	Merko Vaga	
			11:15-12:00	Sal T	Complementary discussion on analyses and calculations	Merko Vaga	
	Thursday	17	08:00-12:00		Self-study /calculations on IVDOM		O
April	Monday	21					
	Tuesday	22					
	Wednesday	23					
	Thursday	24					
	Friday	25					
April	Monday	28	10:15-12:00	Sal Z	Lecture: Carbohydrates	H. Gonda	
			13:15-15:00	Sal X	Protein-CP analyses: Calculations & Visit to the LAB	Merko Vaga/Horacio/Jorge	O
					MCT 3 "Lab" opens in Canvas	Opens 28 April - closes 23 May	
	Tuesday	29	09:15-12:00	Sal K	Lecture: <i>in sacco</i> incubation method and calculations	H. Gonda	
			13:15-14:00	Sal T	Lecture: Fat analyses	Jorge André	
			14:15-15:00	Sal T	Lecture: Carnivore metabolism & research methods	Hanna Palmquist	
May	Wednesday	30					
	Thursday	1					
	Friday	2			self study NDF, CP and Fat calculations		
			09:15-10:00	Sal T	Summing up IVDOM	H. Gonda, M. Vaga	

May	Monday	5	10:15-12:00	Sal Z	Lecture: Feed evaluation, diet formulation	H. Gonda, M. Vaga	
			13:15-17:00	Sal X	Feed optimization (Introduction/Excel-Solver)	H. Gonda, M. Vaga	
			17:00		Hand in results on IVDOM		
	Tuesday	6	11:15-12:00	Sal W	Lecture: Plant defence mechanisms	H. Gonda	
			13:15-15:00	Sal S	Lecture: Grazing for future	Rebecca Danielsson	
			15:15-17:00	Zoom	Feed optimization (questions on Zoom)	H. Gonda	
	Wednesday	7	09:15-10:00	Sal A241	Lecture: Monogastric diet formulation	Emma Ivarsson	
			10:15-12:00	Sal A241	Lecture: Monogastric metabolism & research methods	Emma Ivarsson	
			13:15-17:00		self study: NDF, CP and Fat calculations		
	Thursday	8	08:15-10:00	Sal X	Lecture: Feed processing in pet food and fish feed industry	Aleksandar Vidakovic	
			10:15-12:00	THC (exHUV), VHC	Pelleting and extrusion exercise (all 4 groups):	Aleksandar Vidakovic, Vilma Johansson	O
			13:15-17:00	THC (exHUV), VHC	Pelleting and extrusion exercise (all 4 groups):	Aleksandar Vidakovic, Vilma Johansson	O
May	Monday	12	09:15-10:00	Sal X	Time for questions on Feed optimization project	H. Gonda	
			10:15-12:00	Sal X	Time for exercises and calculations (some examples)	H. Gonda	
			13:15-17:00		self-study on feed optimization project		
	Tuesday	13	17:00		Hand in report on the Feed optimization project by 17:00 h		
			09:15-10:00	Sal T	Lecture: Feed ethics	Mikaela Lindberg	
			10:15-12:00	Sal T	Presentation of feed optimization	H. Gonda, M. Vaga	O
	Wednesday	14	13:15-15:00	Sal K	Lecture: Forage for horses	Cecilia Müller	
			08:15-10:00	Room 08, 09, 10 - VHC-5, Room 13, 14, 15, 16 - VHC-4	Preparation for the farm visit Brunsbergs Foder och Strö (horses)	Cecilia Müller	O
			10:15-12:00	Sal N	Lecture: Botanical composition, why and how?	David Parsons	
	Thursday	15	23:59		Hand in the LAB-REPORT to another student (to be assigned) by midnight		
			08:30-10:00	Lövsta	Exercise on forage quality – Group A	Rolf Spörndly	O
			10:30-12:00	Lövsta	Exercise on forage quality – Group B	Rolf Spörndly	O
May	Friday	16	13:15-15:00	Sal V	Discussion on silage making and big bale silage	Rolf Spörndly	O
					Hand in results on CP and fat:		
	Monday	19			Hand in the LAB-REPORT back to your fellow student		
			08:15				
			08:15-10:00		self-study: LAB REPORT		
			10:15-12:00	Sal X	Discussion-questions feed analyses & LAB-REPORT	H. Gonda, M. Vaga	
			13:15-17:00		self-study: LAB REPORT		
	Tuesday	20	23:59		Hand in the LAB-REPORT by midnight		
			13:15-17:00	Demo area	Field exercises: Species characteristics	Nilla Nilsson-Linde, Sigrun Dahlin	O
	Wednesday	21	08:15-12:00	Farm	Farm visit Brunsbergs Foder och Strö (horses)	Cecilia Müller	O
			08:15-10:00	VHC gruprum 2	Group 1: discussion LAB-REPORT	H. Gonda, M. Vaga	O

	Thursday	22	10:15-12:00	VHC gruprum 2	Group 2: discussion LAB-REPORT	H. Gonda, M. Vaga	O
			13:15-15:00	VHC gruprum 8	Group 3: discussion LAB-REPORT	H. Gonda, M. Vaga	O
			15:15-17:00	VHC gruprum 8	Group 4: discussion LAB-REPORT	H. Gonda, M. Vaga	O
	Friday	23	09:15-12:00	Demo area	Species characteristics – test	Nilla Nilsdotter-Linde, Sigrun Dahlin	O
			13.15-17.00		Self-study		
					MCT 3 "Lab" closes in Canvas		
May	Monday	26	08:00-12:00	Farm	Farm visit Östanå Farm – organic milk production	Nilla Nilsdotter-Linde & H. Gonda	O
			13:15-15:00	Study visit	AgriLab, Gunsta, commercial lab	H. Gonda, M. Vaga	O
	Tuesday	27	10:15-12:00	Sal X	Course evaluation	H. Gonda, M. Vaga	
			13:15-14:00	Sal X	Lecture: Working in the feed industry	H. Gonda, M. Vaga	
			14:30-16:00	Sal X	Study visit feed factory		O
	Wednesday	28			self study. Hang in "feed analysis report"		
	Thursday	29					
	Friday	30					
June	Monday	2	10:15-12:00	Zoom	time for questions		
	Tuesday	3			self study		
	Wednesday	4	08:00-12:00		Final exam		
	Thursday	5					
	Friday	6					