

HV0189 Basic Animal Breeding and Genetics

Preliminary schedule for spring semester 2021.

2020-12-21

Scheduled events in the course

Week	Day	Date	Time	Topic	Where
3	Mon	Jan 18	18.00-19.00	Introduction meeting (email course leader if you can not attend)	zoom
5	Thu	Feb 4	13.00-14.00	Ask questions to teacher	zoom
7	Fri	Feb 19	15.00-16.00	Ask questions to teacher	zoom
9	Fri	Mar 5	15.00-16.00	Ask questions to teacher	zoom
10	Fri	Mar 12	19.00	Deadline for assignment 1	Canvas
11	Thu	Mar 18	18.00-19.00	Ask questions to teacher	zoom
13	<i>TBD</i>	<i>TBD</i>	<i>TBD</i>	Ask questions to teacher	zoom
14	Fri	Apr 9	19.00	Deadline for assignment 2	Canvas
15	<i>TBD</i>	<i>TBD</i>	<i>TBD</i>	Ask questions to teacher	zoom
17	<i>TBD</i>	<i>TBD</i>	<i>TBD</i>	Ask questions to teacher	zoom
18	Fri	May 7	19.00	Deadline for assignment 3	Canvas
19	Tue	May 11	13.00-14.00	Ask questions to teacher	zoom
21	Thu	May 27	18.00-19.00	Ask questions to teacher	zoom
22	Thu	Jun 3	8.00-11.00	Written exam	Uppsala and Alnarp*
	Fri	Jun 4	19.00	Deadline for assignment 4	Canvas
		Aug		First re-exam	Uppsala
		Jan 2022		Second re-exam	Uppsala and Alnarp*

*The exam on June 3 and the re-exam in January 2022 can be written either in Alnarp or in Uppsala. It may be possible to write the exam also in Umeå, we will check that after the start of the course in case any student would like to do that.

Literature per week

Week	Date	Chapter in Introduction to veterinary genetics	Additional material in Canvas
3	Jan 18-22	1 Basic genetics	Texts and videos about domestic animals, exercises on Mendelian inheritance and recombination
4	Jan 25-29	2 Molecular Biology	
5	Feb 1-5	3 Single-gene disorders	exercises of single gene diseases
6	Feb 8-12	4 Chromosomal aberrations	
7	Feb 15-19	5 Single genes in populations	Exercises on allele

			frequency, genotype frequency, Hardy-Weinberg, Linkage disequilibrium
8	Feb 22-26	6 Familial disorders not due to a single gene	
9	Mar 1-5	7 is it inherited	Examples and exercises of pedigrees with different types of inheritance
10	Mar 8-12	10 Hosts, parasites, and pathogens	Example of goat resistance to parasites
11	Mar 15-19	11 Single genes in animal breeding	Example of alfa-S1-casein in Swedish goats, examples and exercises on colour genetics
12	Mar 22-26	12 Relationship and inbreeding	Examples and exercises of inbreeding from pedigrees
13	Mar 29 - Apr 2	13 Quantitative variation	Exercises about heritability
14	Apr 5-9	14 Selection between populations	Additional example of G x E
15	Apr 12-16	15 Selection within populations	More about breeding values and genetic progress
16	Apr 19-23	16 Breed structure	
17	Apr 26-30	17 Crossing	
18	May 3-7	18 Selection and regular crossing	Introduction to genomic selection
19	May 10-14	19 Biotechnology and the future	Introduction to CRISPR
20	May 17-21	20 Conservation genetics	Examples from Swedish local breeds
21	May 24-28	21 Genetic and environmental control of inherited disorders	
22	May 31-Jun 4	Written Exam June 3	

A time table of when it is suitable to watch recorded lectures and demonstrations and work with exercises is available on the Canvas page for the course. Registered students will get invitations to the Canvas page and an email with the link to course meetings in zoom.

Course leader:

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