UNIVERSITY OF ZAGREB
FACULTY OF VETERINARY MEDICINE
Heinzelova 55
Tel. 01/2390224
Division: Animal Production and Biotechnology
Organizational unit: Animal Breeding and Livestock Production
E-mail of the course leader: smencik@vef.hr
Register No of the organisational unit: 61-09-2026-23
Zagreb, 28/1/2026

COURSE SYLLABUS

Course name: Animal Breeding and Production
Academic year 2025/2026

Course leader: Assoc. Prof. Sven Menčik, PhD

Deputy course leader: (title, name and surname): Full Prof. Anamaria Ekert Kabalin, PhD

Teachers: Full Prof. Anamaria Ekert Kabalin, PhD, Assoc. Prof. Maja Maurić Maljković, PhD, Assoc. Prof. Sven Menčik, PhD, postdoctoral assistant Aneta Piplica, PhD, postdoctoral assistant Ivan Vlahek, PhD, Niko Popović, DVM

First day of classes: 4/3/2026
Last day of classes: 27/5/2026

Activities - Animal Breeding and Production (1/3)

Start Date	Start T	End Ti	Course	Group	Note	Length	Instructor	Room
04/03/2026	8:15	9:45	p01 Genetic improvement of animals	4E-1, 4E-2, 4E-3		1:30	Maurić Maljković M.	P_mikrobiologija
09/03/2026	14:00	15:30	p02 Selection of animals (qualitative	4E-1, 4E-2, 4E-3		1:30	Maurić M. M.	P_mikrobiologija
12/03/2026	13:30	15:00	v01 Breeding methods	4E-1, 4E-2, R_stočarstvo velika		1:30	Nastavnici na predmetu	R_stočarstvo mala, R_stočarstvo velika
16/03/2026	8:15	9:45	v01 Breeding methods	4E-3, R_stočarstvo velika		1:30	Nastavnici na predmetu	R_stočarstvo mala, R_stočarstvo velika
18/03/2026	8:00	9:30	v02 Selection of animals (qualitative	4E-3, R_stočarstvo velika		1:30	Nastavnici na predmetu	R_stočarstvo mala, R_stočarstvo velika
19/03/2026	9:55	11:25	v02 Selection of animals (qualitative	4E-1, 4E-2, R_stočarstvo velika		1:30	Nastavnici na predmetu	R_stočarstvo mala, R_stočarstvo velika
20/03/2026	10:00	16:00	t01 Beef production farm	4E-1, 4E-2, 4E-3		6:00	Nastavnici na predmetu	
24/03/2026	10:00	11:30	p03 Selection of animals (quantitativ	4E-1; 4E-2; 4E-3; P_fizika		1:30	Menčik S.	P_mikrobiologija
26/03/2026	14:15	15:45	p04 Selection of animals (quantitativ	4E-1, 4E-2, 4E-3, P_fizika		1:30	Menčik S.	P_mikrobiologija
27/03/2026	10:00	16:00	t02 Cattle diary and hose stud farm	4E-1, 4E-2, 4E-3		6:00	Nastavnici na predmetu	
31/03/2026	8:15	9:45	v03 Colloquium 3 + selection	4E-3		1:30	Nastavnici na predmetu	R_stočarstvo mala, R_stočarstvo velika
01/04/2026	11:45	13:15	v03 Colloquium 3 + selection	4E-1, 4E-2		1:30	Nastavnici na predmetu	R_stočarstvo mala, R_stočarstvo velika

Activities - Animal Breeding and Production (2/3)

Start Date	Start T	End Ti	Course	Group	Note	Length	Instructor	Room
14/04/2026	10:00	11:30	v04 Selection of animals (quantitativ	4E-1, 4E-2, R_stočarstvo velika		1:30	Nastavnici na predmetu	R_stočarstvo mala, R_stočarstvo velika
14/04/2026	11:45	13:15	v04 Selection of animals (quantitativ	4E-3, R_stočarstvo velika		1:30	Nastavnici na predmetu	R_stočarstvo mala, R_stočarstvo velika
17/04/2026	13:30	15:00	p05 Evaluation of the breeding value I	4E-1, 4E-2, 4E-3		1:30	Ekert K.	P_fiziologija
22/04/2026	8:15	9:45	p06 Estimation of breeding values	4E-1, 4E-2, 4E-3		1:30	Ekert K.	P_fiziologija
24/04/2026	10:00	16:00	t03 Small familly horse farm	4E-1, 4E-2, 4E-3		6:00	Nastavnici na predmetu	
29/04/2026	8:30	10:00	p07 Improvement of animal populations	4E-1, 4E-2, 4E-3		1:30	Menčik S.	P_fizika
04/05/2026	9:45	11:15	v05 Selection of animals (quantitativ	4E-3, R_stočarstvo velika		1:30	Nastavnici na predmetu	R_stočarstvo mala, R_stočarstvo velika
06/05/2026	13:35	15:05	v05 Selection of animals (quantitativ	4E-1, 4E-2, R_stočarstvo velika		1:30	Nastavnici na predmetu	R_stočarstvo mala, R_stočarstvo velika
08/05/2026	12:00	13:30	v06 Breeding value of animals	4E-3, R_stočarstvo velika		1:30	Nastavnici na predmetu	R_stočarstvo mala, R_stočarstvo velika
11/05/2026	14:30	16:00	v06 Breeding value of animals	4E-1, 4E-2, R_stočarstvo velika		1:30	Nastavnici na predmetu	R_stočarstvo mala, R_stočarstvo velika
13/05/2026	8:15	9:45	v07 Colloquium 4 + UV	4E-3		1:30	Nastavnici na predmetu	R_stočarstvo mala, R_stočarstvo velika
14/05/2026	15:00	16:30	v07 Colloquium 4 + UV	4E-1, 4E-2, R_stočarstvo velika		1:30	Nastavnici na predmetu	R_stočarstvo mala, R_stočarstvo velika

Activities - Animal Breeding and Production (3/3)

Start Date	Start T	End Ti	Course	Group	Note	Length	Instructor	Room
19/05/2026	10:00	16:00	t04 Beef meat production farm	4E-1, 4E-2, 4E-3		6:00	Nastavnici na predmetu	
20/05/2026	17:00	18:30	s01 Breeding programs (horses, dogs and cats)	4E-1, 4E-2, 4E-3, R_stočarstvo velika	Online	1:30	Ekert Kabalin A.	R_stočarstvo velika
26/05/2026	15:15	16:45	s02 Breeding programs (cattle, sheep and goats)	4E-1, 4E-2, 4E-3, R_stočarstvo velika	Online	1:30	Maurić Maljković M.	R_stočarstvo velika
27/05/2026	10:00	11:30	s03 Breeding programs (pigs and	4E-1, 4E-2, 4E-3, R_stočarstvo velika		1:30	Menčik S.	R_stočarstvo mala, R_stočarstvo velika
Total: 28						60:00		

STUDENT OBLIGATIONS

<table>
<tr><td>Lecture attendance</td><td>During 4th semester maximal number of points from this evaluation element is 2.47 (the lowest number of points that a student should gain from this element is 1.24).
Every hour of lecture (from a total of 14 hours) contributes with 0.176 points. The student must attend at least 7 hours of lectures to obtain minimal number of points.</td></tr>
<tr><td>Seminars attendance</td><td>During 4th semester maximal number of points from this evaluation element is 2.5 (minimal is 1.5 points).
A total of 6 hours of seminars are held in 3 terms of two hours each. The student must attend at least 2 terms of the seminar to obtain minimal number of points.</td></tr>
<tr><td>Practicals attendance</td><td>During 4th semester maximal number of points from this evaluation element is 2.8 (minimal is 1.8 points).
Within a total of 26 hours 7 terms of practicals on the Faculty (intramural paracsticals of two hours each) and 4 terms of „extramural" practicals (farm visits) are included. Students are obliged to attend at least 5 terms of the practicals on the Faculty and all farm-visits (4 extramural practicals) to obtain minimal number of points (in the case of justifiable absence from the farm visit, the student must write an additional seminar).</td></tr>
<tr><td>Active participation in seminars and practicals</td><td>During 4th semester maximal number of points from this evaluation element is 4 (minimal is 2.19 points).
For each successfully written seminar (preparation) and for successfully completed assignment on the practical, the student receives 0.31 points.
The minimum number of points a student must earn from activities in seminars and practicals is 2.19: at least 0.63 points should be obtained on seminars (at least 2 successfully written seminars) and 1.56 points should be obtained for activity on practicals (5 successfully completed tasks).
The student can earn an additional 0.5 points for successful oral answer on practicals or seminar presentation.
If the student successfully writes all the seminars (3) and successfully completes the tasks on practicals (7), he / she can earn a total of 3.13 points. The remaining activity points (up to a maximum of 4) may be obtained through oral answers and presentations at seminars and practicals.</td></tr>
<tr><td>Final exam</td><td>The final exam consists of a written and oral part. To access to the written part student must fulfill the obligations of 3rd and 4th semesters according to the following table:

<table>
<tr><th>Type of activity</th><th>Minimal points</th><th>Maximal points</th></tr>
<tr><td>Lecture attendance</td><td>3</td><td>6</td></tr>
<tr><td>Seminar attendance</td><td>4</td><td>6</td></tr>
<tr><td>Practical attendance</td><td>4</td><td>6</td></tr>
<tr><td>Active participation in seminars and practicals</td><td>5</td><td>10</td></tr>
<tr><td>Continuous knowledge-checking</td><td>20</td><td>32</td></tr>
<tr><td>Total</td><td>36</td><td>60</td></tr>
</table>

Number of points on the written and oral part of the final exam:

<table>
<tr><th>Final exam</th><th>Minimal points</th><th>Maximal points</th></tr>
<tr><td>Written part</td><td>12</td><td>20</td></tr>
<tr><td>Oral part</td><td>depends on the number of points on a written exam*</td><td>20</td></tr>
</table>
*In total, students must have at least 24 points on the written and oral part of the exam. The score for the oral exam can not be less than 5</td></tr>
</table>

Examination requirements	Student requirements are defined in the Regulations on the University Integrated Undergraduate and Graduate Study of Veterinary Medicine (2024). Given the above, the student must acquire a minimum number of points from all assessment elements in order to take the final exam: a student can justifiably be absent from up to 50% of the lectures; 30% of the seminars and 30% of the exercises.

GRADING AND EVALUATING STUDENT WORK

Continuous knowledge-checking (mid-terms)	Colloquium 3 – 31/3/2026, 1/4/2026 Colloquium 4 – 13/5/2026, 14/5/2026 Retakes: 29/5/26, 2/6/26, 8/6/26, 9/6/26, 19/6/26, 2/7/26, 4/9/26, 9/9/26
Final exams (dates)	10/6/26, 17/6/26, 30/6/26, 8/7/26 – summer examination term 8/9/2026, 16/9/2026 – autumn examination term
Form of final exam	Written and oral

LITERATURE

Obligatory literature	Prepared materials available via on-line Merlin platform. RADOSTITS, O. M. (2001): Herd Health. 3rd Ed. W. B. Saunders Company. Philadelphia LASLEY, J. F. (1987): Genetics of Livestosck Improvement. Prentice-Hall, Inc., New Jersey MUIR, W. M., S. E. AGGREY (2003): Poultry genetics, breeding and biotechnology. CABI Publishing. UK. HOUGHTON BROWN, J., S. PILLINER, Z. DAVIES (2003): Horse and stable management. 4th Ed. Blacknell Publishing. ROOT KUSTRITZ, M. V. (2006): The dog breeders guide to successful breeding and health management. 1st Ed. Saunders. VELLA, C. M., L. M. SHELTON, J. J. MCGONAGLE, T. W. STANGLEIN (2003): Robinsons genetics for cat breeders and veterinarians. Butterworth-Heinemann
Optional literature	LOKHORST, C., P. W. G. GROOT KOERKAMP (2009): Precision livestock farming. Wageningen Academic Publishers. Wageningen. AXFORD, R.F.E., A.C. BISHOP, F. W. NICHOLAS, J. B. OWEN (2000): Breeding for disease resistance in farm animals. 2nd Ed. CABI Publishing. UK. FIELD, T. H., R. W. TAYLOR (2009): Scientific farm animal production: An Introduction to Animal Science. 11th Ed. Pearson. BRAND, A., J. P. T. M. NORDHUISEN, Y. H. SCHUKKEN (1996): Herd health and production management in dairy practice. Wageningen Pres. Wageningen. JIANG, Z., T. L. OTT (2010): Reproductive genomics in domestic animals. 1st Ed. Wiley-Blackwell, Ares, Iowa, USA. FAO (2007): Marker assisted selection. Food and agriculture organization of the United Nations. Rome. fao.org/4/a1120e/a1120e00.htm PIERCE, B. A. (2003): Genetics: A Conceptual Approach. Worth Publishers. Inc., U.S.

OBJECTIVES AND LEARNING OUTCOMES

Course objectives	The objective of the course Animal breeding and production is to teach students of veterinary medicine how to evaluate and improve genetic basis of animals. Special attention is focused on genotype-phenotype characteristics which have influence on quality and quantity of animal products, then to the characteristics of animal resistance to diseases and animal organism - environment interactions.
Learning outcomes	After successful completion of the course students will be able to: - understand the role of genetic basis in different ways of breeding and exploiting animals - apply different methods to improve the genetic basis of animals with respect to specific breeding traits - identify various animal production systems - gather animal health and production data - analyze animal health and production data - setting the goals in cooperation with farmers - control advancement according to set goals - control advancement according to set goals

GRADING SCHEME

Points	*Grade*
Up to 59	1 (F)
60-76	2 (D,E)
77-84	3 (C)
85-92	4 (B)
93-100	5 (A)

Course leader

Head of organizational unit:

Note: The course leader is required to submit a Course Syllabus to all teachers and associates pertaining to the Course