

**REPUBLIC OF AZERBAIJAN
MINISTRY OF SCIENCE AND EDUCATION
KHAZAR UNIVERSITY
FACULTY OF VETERINARY MEDICINE
DEPARTMENT OF VETERINARY MEDICINE**

BEEKEEPING

SYLLABUS

**Academic Year and Semester
Fall Semester, 2026/2027**

Instructor:
PhD in Biological Sciences, Vusal Abbasov

Agreed by

Approved by:

Head of the Department:

**PhD in Biological Sciences,
S.C.Mammadova**

SYLLABUS

VET 230 BEEKEEPING

General Information	Course Title, Course Code, and Number of Credits	VET 230 BEEKEEPING, 4 AKTS
	Department	Veterinary Medicine
	Program	Bachelor
	Academic Semester	Fall Semester of the 2026/2027 Academic Year
	Course Instructor	PhD in Biological Sciences, Vusal Abbasov
	E-mail	Vusalabbasov8414@gmail.com
	Telefon	+994 502900431
	Address, classroom, class schedule	
	Office Hours	To be scheduled by mutual agreement with the students
Prerequisites		
Language of Instruction	English Language	
Course Type	Compulsory	
Textbooks and Additional Literature	Core Textbooks 1. Valeh Gadimov, Barat Ahmadov, Taleh Shamiyev. <i>What a Beekeeper Should Know</i>. Azerbaijan Society of Zoologists, Baku, 2006. 2. Valeh Gadimov, Barat Ahmadov, Taleh Shamiyev. <i>Business Planning in Beekeeping Enterprises</i>. Azerbaijan Society of Zoologists, Baku, 2007. 3. R. Aliyeva, B. Ahmadov. <i>Diseases of Honey Bees and Methods of Their Control</i>. Baku, 2018. 4. R. Sultanov, N. Najafov. <i>The Use of “Raniy-1” and “Raniy-2” Medicinal Preparations in the Control of Ascospheiosis of Honey Bees in Azerbaijan</i>. Baku, 2009. 5. Johnson, B.R. Honey Bee biology. Princeton University 2023 6. Caron D.M., Zawislask J. Honey bee biology and beekeeping (3rd ed.) Wicwas pres 2022 Supplementary Web Resources 7. https://www.youtube.com/shorts/GDVgKmX-j44 8. https://www.youtube.com/watch?v=yF7IRoUvjAI	
Course Description	Beekeeping is one of the specialized subjects within the biological education system. This field of study encompasses the theoretical foundations of beekeeping, as well as the biology, anatomy, and physiology of the honey bee (<i>Apis mellifera</i>) and the principles of managing modern beekeeping enterprises. Within the framework of the course, students will acquire knowledge of the composition and organization of the honey bee colony, bee nutrition, methods for the prevention and control of diseases and pests, as well as the production, processing, and quality indicators of major apicultural products, including honey, royal jelly, propolis, pollen, and beeswax. In addition to theoretical knowledge, the course is designed to develop students’ practical skills in hive management, seasonal colony maintenance, and the application of modern beekeeping technologies.	

Course Objective	- To study the anatomical and physiological structure of honey bees and their life cycle. - To study the preparation of honey bee colonies for the spring, summer, autumn, and winter seasons, as well as the proper organization of activities within the hive. - To develop the ability to perform early diagnosis of bee diseases and implement biologically appropriate preventive and therapeutic measures. - To study the technologies for the proper collection, processing, and storage of apicultural products, including honey, royal jelly, propolis, and beeswax. - To study the major honey bee breeds prevalent in Azerbaijan. - To study the methods of acquiring and transporting honey bees and bee colonies. - To study the nutritional and comb requirements of honey bee colonies. - To study the major pests of the honey bee.		
Learning Outcomes	Upon completion of the course, students will be able to: - Demonstrate knowledge of the subject matter and principal objectives of beekeeping, as well as the anatomical and physiological characteristics of the honey bee. - Analyze, synthesize, and apply the latest scientifically and practically significant achievements in modern beekeeping technologies, queen bee rearing, and biotechnological methods. - Examine global challenges in beekeeping, the role of honey bees in pollination within ecosystems, major epizootic diseases, and the sanitary and hygienic aspects of apicultural products, including honey, propolis, and royal jelly.		
Teaching Methods	Lecture		X
	Group Discussion		X
	Practical Assignments		X
Assessment	Components	Date/Deadline	Percentage (%)
	Quiz	Twice during the semester Before the Midterm and Final Examinations	10
	Research Project	During the semester	10
	Participation and Engagement	During the Semester	10
	Midterm Examination		30
	Final Examination		40
	Total		100
Rules (Academic Policies and Conduct)	Course Organization General information related to the course will be provided to students. New topics will be explained using visual aids, including PowerPoint (PPT) presentations and video materials. Students' level of knowledge and comprehension will be assessed through quizzes prior to the Midterm and Final Examinations. During classes, students' understanding of previously covered topics will be assessed through oral and written questioning. Each assessment will contribute to the student's participation grade, and a cumulative grade will be calculated at the end of the semester. Students are required to deliver individual presentations on assigned topics during the semester. Each presentation, including the discussion at the end, should not exceed 15 minutes. A printed copy of the presentation must also be submitted. Detailed information regarding the presentation topics and requirements will be provided during the classes. Students are required to complete nine individual laboratory assignments during the semester. Students must wear a white laboratory coat during laboratory sessions. The results of each laboratory assignment must be documented in a laboratory notebook in the form of a protocol. Each protocol must include the title of the laboratory assignment, its principle, procedure, results obtained, and discussion. The protocol must be reviewed by the instructor, and students will be assessed through oral questioning. A cumulative laboratory grade will be calculated at the end of the semester. Detailed information regarding these requirements will be provided during the classes. Attendance Attendance at all classes is mandatory. Students who are unable to attend classes for valid reasons (e.g., illness, family circumstances, etc.) must provide the relevant information to the Faculty Dean's Office. Students who miss more than 25% of the classes will not be permitted to take the		

	examination. Attendance will be taken into consideration in the assessment of students in this course. Lateness and Other Class Violations Students who arrive more than 10 minutes late to class will be marked absent. Nevertheless, they will be allowed to attend the class. Quizzes Students who are unable to participate in a quiz for a valid reason, provided that the instructor and the Faculty Dean's Office have been informed in advance, may take the quiz during the following week. Examinations All matters concerning a student's participation in an examination or absence from an examination shall be resolved by the Faculty Administration. The topics covered in the Midterm and Final Examinations will be provided to students prior to the examinations. Questions included in the Midterm Examination will not be repeated in the Final Examination. Examination Regulations and Violations During the Midterm and Final Examinations, students are prohibited from disrupting the examination process or engaging in academic misconduct, including copying or cheating. Failure to comply with these regulations will result in the cancellation of the student's examination paper and removal from the examination with a grade of 0 (zero). Course Completion Requirements In accordance with the University regulations, a minimum overall achievement of 60% or higher is required to successfully complete the course. Students who fail the course may retake it in the following semester or academic year. Student Conduct During classes, students are required to comply with academic and ethical standards of conduct. Disrupting the teaching and learning process, engaging in unauthorized discussions among students, and using mobile phones during class are prohibited.
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APPROXIMATE ALLOCATION OF HOURS BY TOPIC AND CALENDAR-THEMATIC PLAN

Week	Date	Topic	Hours	Textbooks/ Assignments
I		Topic № 1. History of the Development of Beekeeping Science, Anatomy, Morphology, and Physiology of the Honey Bee	2	Textbook 2 ,s.4-14
II		Topic № 2. Composition of the Honey Bee Colony (Queen Bee, Worker Bees, and Drones) and Its Social Organization	4	Textbook 1 , s. 3-14
		Discussion of the Lecture Topic through Group Work and Assessment of Students' Understanding of the Lecture Material.	2	
III		Topic № 3. Apicultural Products (Honey, Beeswax, and Pollen)	2	Textbook 2 , s. 15-34
IV		Topic № 4. Apicultural Products (Bee Bread, Propolis, Royal Jelly, and Bee Venom)	4	Textbook 2 , s. 35-51
		Discussion of the Lecture Topic Using Visual Aids and Assessment of Students' Understanding of the Lecture Material.	2	
V		Topic № 5. The Honey Bee Colony's Nest, Reproduction, and Swarming	2	Textbook 1 , s 21-26
VI		Topic № 6. Honey Bee Breeds Commonly Found in Azerbaijan	2	Textbook 1 , s.26-27 Textbook 3 , s10-13
		Quiz 1.		

VII		Topic № 7. Organization of Apiaries, Nectariferous Plant Resources, and Selection of Sites for Hive Placement	4	Textbook 1 , s. 28-40
VIII		Topic № 8. Honey Bee Care Practices and Summer Management Activities in the Apiary	2	Textbook 1 , s.41-51
		Midterm Examination		
IX		Topic № 9. Autumn and Winter Management Activities in the Apiary	2	Textbook 1 , s. 51-56
X		Topic №10. Honey Bee Diseases and Routes of Infection (Bacterial and Viral Diseases)	2	Textbook 1 s.57-65 Textbook 3 , s,14-22
		Organization of Visual Observation of Honey Bee Diseases Using a Digital Microscope in the Laboratory	2	
XI		Topic № 11. Honey Bee Diseases and Routes of Infection (Fungal Diseases)	4	Textbook 3 , s. 22-26
XII		Topic № 12. Parasitic Diseases of Honey Bees	2	Textbook 3 , s.26-30
		Practical Training in Beekeeping Enterprises	1	
XIII		Topic № 13. Pests of Honey Bees	2	Textbook 3 , s.30-34
XIV		Topic № 14. Methods of Disease Control	2	Textbook 3 , s.34-39
		Quiz 2		
XV		Topic № 15. Honey Bee Care Practices	2	Textbook 3 , s.39-40
			45	
		Final Exam		

This syllabus provides comprehensive information about the course. Students will be notified in advance of any changes to the course content, schedule, or requirements.