



Damanhur University
Faculty of Veterinary Medicine

Program Specification

A. Basic considerations

1. Program Title: Bachelor of Veterinary Medical Sciences (B.V.Sc)

2. Program Type: Single

3. Department(s): 16 departments:

1. Department of Anatomy and Embryology
2. Department of Histology and Cytology
3. Department of Animal Husbandry and animal Wealth Development
4. Department of Nutrition and Veterinary Clinical Nutrition
5. Department of Physiology
6. Department of Biochemistry
7. Department of Pharmacology
8. Department of Microbiology
9. Department of Pathology and Parasitology
10. Department of Food Hygiene and Control
11. Department of Surgery
12. Department Animal Medicine
13. Department of Theriogenology
14. Department of Veterinary Forensic Medicine and Toxicology
15. Department of Animal Hygiene and Zoonoses
16. Department of Poultry and Fish Diseases

4. Assistant Coordinators:

Prof. Dr. Hany Elakany (Vice dean for education and student affairs)

Prof. Dr. Abdel-Rahman Abo-rawash (Vice dean for postgraduates studies and research affairs)

Prof. Dr. Ebeed Saleh (Vice dean for environmental and community affairs)

5. Coordinator:

Prof. Dr. Usama El-Sayed Mahrous (Dean)

6. External Evaluator(s):

Prof. Dr. Kamal Metwaly Ghatas , Professor of Theriogenology, Fac. Vet. Med., Alex Univ.

7. Last date of program specification approval: 22/10/2014

B. Professional considerations

1- Program Aims:

The faculty of Veterinary Medicine, Damanhur University is committed to diversity in veterinary education and recruitment of potential veterinary researchers, who are in demand at universities and government

agencies. The Bachelor of Veterinary Medical Sciences (B.V.Sc) program at the faculty is focusing on:

- 1- Achievement of knowledge and skills relevant for Veterinary Medicine profession in the field of veterinary medical education, practice and research.
- 2- Prepare a practitioner veterinarian who possesses the knowledge, skills and attitudes with which to practice professional Veterinary Medicine in a variety of human and animal health care delivery system.
- 3- Establishment of a versatile academic skeleton that enhances the relationship with the community organizations in the field of animal wealth development.

2- Intended Learning Outcomes (ILOs)

The new graduate is expected to gain the following skills by the end of the bachelor program in Veterinary Medicine at our faculty:

A) Knowledge and Understanding:

The graduate of veterinary medical programs must acquire the knowledge and the understanding of the following:

- a1. The basic concepts of chemistry, veterinary statistics, computer and veterinary terminology.
- a2. The basic concepts of normal macroscopic and microscopic structure of animal, poultry and fish tissues, organs and systems as well as ultrastructural and molecular basis of the cellular function.
- a3. The basic concepts of normal physiological and biochemical bases of organ function and homeostasis.
- a4. The basic concepts of normal behavior, management, veterinary economics, genetics, breeding and genetic engineering of different livestock.
- a5. The basics of nutrition and feeding practices of healthy and diseased animals, poultry and fish.
- a6. The basic concepts of epidemiology of animal diseases, health maintenance and disease prevention mechanism as well as the accurate measurements of veterinary quarantine.
- a7. Ethical codes relevant to animal and food hygiene (meat and milk product).
- a8. Various causes (genetic, developmental, metabolic, toxic, microbiological, parasitic, autoimmune, neoplastic, degenerative and traumatic) of affections.
- a9. Altered structure and function of animal, poultry and fish bodies and major organ systems that are seen in various diseases and conditions.
- a10. Scientific principles underlying laboratory diagnosis and the ability to critically evaluate the limitations and diagnostic methodologies as well as the power of scientific method in establishing the causation of disease.
- a11. How to interpret from the clinical signs, laboratory diagnosis and history, the final diagnosis of animal problem and adapts the proper treatment from such cases.

- a12. Principles of pharmacology, therapeutics , therapeutic decision-making and efficacy of traditional and nontraditional therapies.
- a13. The basic concepts of toxicology and forensic medicine, animal medicine, theriogenology and veterinary surgery.
- a14. The basic concepts of the normal reproductive behavior and abnormalities that occur in common diseases.
- a15. The avian, rabbit and fish diseases, and their prophylactic and control measures.
- a16. Zoonotic diseases transmitted to man (prophylaxis and control) and sanitary requirements for animal transport, slaughterhouses, and the storage of meat products
- a17. The importance of research for the extension of the knowledge base in veterinary science.
- a18. The good professional attitude, interpersonal skills, team working, communication and human rights.

B) Intellectual Skills:

- b1. Graduate has the ability to highlight important clinical problem from case interaction and utilizing available data to solve this problem.
- b2. The ability to assess and criticize at the fundamental level, how data is derived.
- b3. The ability to evaluate scientific/clinical information and critically analyze conflicting data and hypothesis.
- b4. The ability to recognize and evaluate the relationship between evidence, audit and observed variation in clinical practice.
- b5. The ability to choose the appropriate (quantitative and qualitative) diagnostic and therapeutic methodologies.
- b6. Graduate should exhibit creativity or resource fullness in their professional learning, scientific endeavor and clinical practice.

C) Professional and Practical Skills:

Graduates must attain the capability of:

- c1. Handling and restraining animals in human manner and Performing euthanasia of animals, ensuring personal safety .as well as advising on animal management and welfare.
- c2. Obtaining accurate and relevant history of the individual animal or animal groups and their environment.
- c3. Performing a thorough clinical examination of all major body systems and outlining the initial treatment for sick animals with life threatening conditions and the procedures to follow with notifiable and zoonotic diseases.

- c4. Collecting, and preserving samples, performing standard practical techniques, interpreting laboratory results and integrating those with clinical examination.
- c5. Assessing the nutritional status of an animal and be able to advise on appropriate husbandry and feeding measures.
- c6- Identifying etiological agents and information relevant to clinical environment and demonstrate a practical ability to apply knowledge of disease processes
- c7. Assessing the productive efficiency of animals and advising on reproductive management including obstetrical problems.
- c8. Advising on animal management, welfare and ethics and understanding the importance of animal health economics in the context of acceptable animal welfare.
- c9. Obtaining and record data to prepare current and/or retrospective assessment and analysis of animal health and production record.
- c10. Minimizing the risk of contamination, cross infection and predisposing factors leading to accumulation of pathogens in veterinary field.
- c11. Applying medical and/or surgical intervention and implementing appropriate post-operative care.
- c12. Performing ante-mortem inspection of animals destined for the food chain and able to recognize conditions affecting the quality and safety of animal products as well as writing a report.
- c13. Performing a basic gross postmortem examination appropriate to the species involved, record finding, sample tissues and safely store and transport them.

D) General and Transferable Skills:

Graduates must have the ability to:

- d1. Conduct themselves in a professional manner with regard to the veterinarian's profession and legal responsibilities and understand and apply the ethical codes set out in general organization of veterinary services.
- d2. Work effectively as a member of a team in the delivery of services to the community under pressure and /or contradictory conditions.
- d3. Communicate effectively with the public, colleagues and appropriate authorities.
- d4. Perform research on common disease problems in the surrounding domestic animals in the community.
- d5. Utilize communicating skills, have access to the Internet and retrieve information.
- d6. Demonstrate knowledge of the organization and management of veterinary practice, principles of certification, basic financial and accounting practices and record keeping.
- d7. Understand career path.

- d8.** Perform research and solve any emerging disease problem.
- d9.** Produce reports in a form that is satisfactory and understandable.

3- Academic Standards:

3a. External References for standards (Benchmarks):

We applied the National Academic Reference Standards (NARS) prepared by the Sector Committee of Veterinary Higher Education (*Annex III*).

3b. Academic standards compared with reference standards:

The academic standards are nearly similar to the NARS, however it is early to estimate whether the graduates have the same skills or not. The design and structure of the curriculum in achieving the NARS are appropriate.

3c. Student assessments:

- There are different methods of assessments used to evaluate the student performance in respect to the achievement of intended learning outcomes, and the examination grading system is appropriate.
- Assessment methods are the same for each semester:

Semester work and Midterm examination:	10%
Final examination (Written):	25%
Final examination (Practical):	10%
Final examination (Oral):	5%
- Course coordinators may use variable activities to check the student skills.
- Students are clearly acquainted with the grading criteria for assessment and readily aware of the course requirements.
- The language used in this assessment is consistent with that of teaching.
- According to the faculty by law, policies and procedures for constituting the examination boards including external examiners are available.

4- Curriculum Structure and Contents

4a. Program duration: Five Years

4b. Program Structure (Courses):

Number of compulsory courses:	71 courses
Number of elective courses:	0
Number of optional courses:	0

Varieties of courses in the educational program:

Nature of courses	Number	%
Basic sciences	21	29.58
Humanities	3	4.22
Preclinical sciences	20	28.16
Clinical sciences	27	38.02
Total	71	100.00

Summer training program: Two month-program for the students. after the second semester of the 3rd and 4th years.

5- Program (B.V.Sc.) Courses:

5a. Courses of the First Year (13 courses):

Semester	Course Title	Code	No. of hours/ week			Program ILOs covered (by No.)
			Lect.	Lab.	Exer	
First	1 General Anatomy and Embryology	1AANA	3	3		a2, b1,b4,c3,d2
	2 Animal and Poultry Behavior and Management	1ABEH	2	3		a4,a5, b2, c1, c2, d1
	3 Organic Chemistry	1ABIO	2	2		a1,a3,b3,b6,c4,d9
	4 Genetics and Genetic Engineering	1AGEN	3	2		a4,a17, b1, d9
	5 Histology and Cytology (General)	1AHIS	2	2		a2,,b4,c13,d5
	6 English Language	1AENG	2	-		a1, a17, b3, d3
	7 Human Rights	1AHRT	2	-		a18,b6, d1
Second	1 General Anatomy and Embryology	1BANA	3	3		a2, b1,b4,c3,d2
	2 Animal and Poultry Behavior and Management	1BBEH	2	3		a4,5,b2, c1, c2, d1
	3 Organic Chemistry	1BBIO	2	2		a1,a3,b3,b6,c4,d9
	4 Genetics and Genetic Engineering	1BGEN	3	2		a4,17, b1, d9
	5 Histology and Cytology (General)	1BHIS	2	2		a2, ,b4,c13,d5
	6 Veterinary Statistics	1BVST	2	2		a1, b3, c9, d2, d6
	Total		30	26		

5b. Courses of the Second Year (12 courses):

Semester	Course Title	Code	No. of hours/ week			Program ILOs covered (by No.)
			Lect.	Lab.	Exer	
First	1 Special and Comparative Anatomy	2AANA	2	3		a2, b1,4, c3, d2
	2 Nutrition and Clinical Nutrition	2ANUT	3	2		a5, b2, c5, d2
	3 Animal Breeding and Production	2AAPRO	2	3		a4,9,b2,c8, d6
	4 Biochemistry	2ABIO	3	2		a1,3, b6, c4,d3
	5 Histology and Cytology (Special)	2AHIS	2	2		a2, b3, c4, d5
	6 Animal physiology	2APHY	5	3		a3,9, b3, d7
Second	1 Special and Comparative Anatomy	2BANA	2	3		a2, b1, b4, c3, d2
	2 Nutrition and Clinical Nutrition	2BNUT	3	2		a5, b2, c5, d2
	3 Animal Physiology	2BPHY	5	3		a3,9, b3, d7
	4 Animal Breeding and Production	2BAPRO	2	2		a4,9,b2,c8, d6
	5 Biochemistry	2BBIO	3	2		a1,3, b6, c4,d3
	6 Fish Breeding and Production	2BFPRO	2	2		a9, b2,c2,9, d6
	Total			32	29	

5c. Courses of the Third Year (16 courses):

Semester	Course Title	Code	No. of hours/ week			Program ILOs covered (by No.)
			Le ct.	Lab.	Exer	
First	1 Parasitology	3APAR	3	3		a6,11,b6,c3, 4,6,d4
	2 Bacteriology and Mycology	3ABACT	2	2		a11,18,b3,b6,c6, ,d2
	3 Virology	3AVIR	2	2		a10,17,b3,6,c6, ,d2
	4 Poultry Breeding and production	3APPRO	2	2		a1,4,5,9,b2,c8,d6
	5 Pathology	3APATH	4	4		a2,11, b1,c4, d8
	6 Pharmacology	3APHARM	3	2		a12, 17, b5, c11,d4
	7 Basic Immunology	3AIM	1	2		a9,10,b3,d4
Second	1 Parasitology	3BPAR	3	3		a6,11,b6,c3, 4,6,d4
	2 Bacteriology and Mycology	3BBACT	2	2		a10,17,b3,6,c6, ,d2
	3 Virology	3BVIR	2	2		a10,17,b3,6,c6, ,d2
	4 Poultry Breeding and production	3BAPPRO	2	2		a1,4,5,9,b2,c8,d6
	5 Pathology	3BPATH	4	4		a2,11, b1,c4, d8
	6 Pharmacology	3BPHARM	3	2		a12, 17, b5, c11,d4
	7 Clinical Pathology	3BCPATH	2	2		a10,b6,c3,4,d4
	Total		35	34		

5d. Courses of the Forth Year (16 courses):

Semester	Course Title	Code	No. of hours/ week			Program ILOs covered (by No.)
			Lect.	Lab.	Exer	
First	1 Applied Anatomy	4AANA	1	2		a2,b1,c3,d2
	2 Specific Pathology	4APAT	2	2		a2,a11,b6,c4,13,d4
	3 Milk Hygiene	4AMIL	3	2		a7,17 b6, c4,10, d6
	4 Fish and Crustacean Diseases	4AFIS	2	2		a2,5,9,10,15,b1, 5,c4,6,d3
	5 General Surgery and Anesthesia	4ASUR	2	2		a11,c1,3, 11,d7
	6 Internal Medicine	4AMED	2	2		a8,b1,5,c2,3, 6,d4
	7 Gynaecology and Andrology	4AGYN	2	2		a11,14,b5, c1,2,3,7, d1
	8 Veterinary Forensic Medicine and Toxicology	4AFOR	2	2		a13,18 b4,c13,d5,9
Second	1 Applied Anatomy	4BANA	1	2		a2,b1,c3,d2
	2 Economic and Farm Management	4BECO	2	2		a1,4,b2,3,c9,d4,6
	3 Milk Hygiene	4BMIL	3	2		a7,17 b6, c4,10, d6
	4 Fish and Crustacean Diseases	4BFIS	2	2		a2,5,9,10,15,b1, 5,c4,6,d3
	5 General Surgery and Anesthesia	4BSUR	2	2		a11,c1,3,11,d7
	6 Internal Medicine	4BMED	2	2		a8,b1,5,c2,3, 6,d4
	7 Gynaecology and Andrology	4BGYN	2	2		a11,14,b5, c1,2,3,7, d1
	8 Veterinary Forensic Medicine and Toxicology	4BFOR	2	2		a13,18 b4,c13,d5,9
	Total		32	32		

5e. Courses of the Fifth Year (16 courses):

Semester	Course Title	Code	No. of hours/ week			Program ILOs covered (by No.)
			Lect.	Lab.	Exer	
First	1	Zoonoses	5AZOO	2	1	a6,16, b3,4,c6,d3,4
	2	Internal Medicine	5AMED	2	2	a3,6,8,9,11,b1,4,5,c1,2,3, 4,d2,3
	3	Meat and Fish Hygiene	5AMTG	2	2	a7,9,16,b6,c12,13,d6
	4	Special Surgery and Radiology	5ASUR	2	2	a9,13,b6,c2,11,d6,7
	5	Infectious Diseases	5AINF	3	2	a6,8,11,b1,4,5,c2,3,4,6,d 8
	6	Poultry Diseases	5APOD	2	2	a6,8,10,11,15,b1,4,5, c2,3,4,6,d8
	7	Obstetrics, Artificial Insemination and Embryo Transfer	5AOBS	2	3	a8,14,b4,5,c1,2,3,7,d6
	8	Animal and poultry Hygiene	5AAHG	3	2	a6,16,b3,6,c1,6,8,d8
Second	1	Zoonoses	5BZOO	2	1	a6,16, b3,4,c6,d3,4
	2	Internal Medicine	5BMED	2	2	a3,6,8,9,11,b1,4,5,c1,2,3, 4,d2,3
	3	Meat and Fish Hygiene	5BMTG	2	2	a7,9,16,b6,c12,13,d6
	4	Special Surgery and Radiology	5BSUR	2	2	a9,13,b6,c2,11,d6,7
	5	Infectious Diseases	5BINF	3	2	a6,8,11,b1,4,5,c2,3,4,6,d 8
	6	Poultry Diseases	5BPOD	2	2	a6,8,10,11,15,b1,4,5, c2,3,4,6,d8
	7	Obstetrics, Artificial Insemination and Embryo Transfer	5BOBS	2	3	a8,14,b4,5,c1,2,3,7,d6
	8	Environmental Hygiene	5BEHG	3	2	a18,b6,c6,10,d1
	Total		36	32		

6. Program admission requirements:

6.1-Certificate of general secondary school with scientific major in biology, physics and chemistry.

6.2- Equivalent certificate as IGCSE and American Diploma.

6.3- Equivalent certificate from Arab courtiers.

Admission criteria:

The students are distributed by central distribution office (Ministry of Higher Education). Faculty of Veterinary Medicine is one of the top faculties, accept a high standard students with high academic reference at secondary school.

7. Regulation for progression and program completion

Promotion of student from one academic year to the next one, he/she is required to be succeeded passed in all subjects. However, the student may still be transferred if he/she has failed in not more than two subjects from the same academic year or from previous years of study. In such cases, student's "carrying" subjects from one year to the next should re-sit for their "failed "subjects in the proper respective semester. Final year student who have failed in a maximum of two subjects in that year or from previous years can re-sit for their exams in those subjects in September of the same year. If the student fails again, he/she has to re-sit for his/her exams in those subjects in their proper respective semesters thereafter as many times as necessary until he/she succeeded.

Enrollment opportunities/ or regular and external students:

Academic year	Enrollment opportunities	
	Regular student	External student
First	Two chances	Non
Second	Two chances	Three chances
Third	Two chances	Three chances
Fourth	Two chances	Three chances
Fifth	Two chances	Three chances but if the student succeeded in half the number of subjects, he/she would be allowed to re-sit for the exam in the subjects he/she has failed indefinitely until he/she graduated.

- Once a student exhausts the number of opportunities of being a "regular" student, he/she become an "external" student for a certain number of times according to the above table. Once an "external" student in a certain year succeeded in

his/her examinations for that year, this will allow him/her transferred to the following year. he/she automatically becomes registered as "regular" student again.

- The student ranking at the end of this program is calculated as cumulative marks score that he/ she obtained during the five years of the program.

8. Program evaluation:

External evaluators: Faculty Council Approval in 11.10.2011

Prof. Dr. Kamal Metwaly Ghatas , Professor of Theriogenology, Fac. Vet. Med., Alex Univ.

Stakeholders and external examiners are considered as members in oral examination committees of each course they discuss the level of the student with the faculty staffs. Stakeholders are the managers of veterinary departments in deferent provinces and professors for specified research institutes of Ministry of Agriculture. External examiners were always taken from others Universities. Professors from other Veterinary Faculties specialized in each evaluated course.

Questionnaires and open discussion with students and Stakeholders.

Student performance

Student performance depending on ILQS was not previously used. It was accurately suggested. we obtained faculty council agreement to be newly applied in enhancement according to the following evaluation.