

Bachelor of Veterinary Medicine

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| Awarding Institution | A' Sharqiyah University (ASU) |
| College/Centre | College of Applied Health and Sciences (CAHS) |
| Program Title | Veterinary Medicine |
| Final Award | Bachelor of Veterinary Medicine |
| Mode of Study | Full Time |
| Credit Hours | 158 |
| Language of Study | English |
| Benchmarks | <ol style="list-style-type: none"> 1. College of Veterinary Medicine, Kansas State University, USA. 2. College of Veterinary Medicine, Oklahoma University, USA. 3. College of Veterinary Medicine, University of Queensland, Australia. 4. College of Veterinary Medicine, Jordan University of Science & Technology, Jordan 5. College of Veterinary Medicine, King Faisal University/ Saudi Arabia |
| Entry Requirements | <p>A student:</p> <ul style="list-style-type: none"> - should have successfully completed the courses of all subjects of the general education diploma or equivalent; - should achieve the standards set for the subjects of the General Foundation Program; - Completed General Science courses in Secondary School including the following courses: Biology, Chemistry, Pure Mathematics, and Physics. - must be medically fit. |
| Minimum Period of Registration | 5 Years (8 Semesters) |
| Maximum Period of Registration | 10 Years (16 Semesters) |
| Date Specification Produced | 17 October 2017 |
| Date Specification Last Reviewed | 2/07/ 2018 |

1. The College of Applied Health and Sciences (CAHS)

The College of Applied Health and Sciences (CAHS) is a pioneer college at A'Sharqiyah University (ASU) with an aim to promote internationally recognized higher education in the Sultanate of Oman. It prepares students in applied science and technology by using state of the art research and teaching facilities in order to make them proficient and useful in high quality jobs in various disciplines related to science and technology.

The primary focus of CAHS at ASU is the effective utilization of the Sultanate's human and natural resources for sustainable growth and development of society. ASU envisions it's CAHS to become among the top applied sciences and health colleges in the Middle East, recognized internationally for providing an excellent science education and conducting applied research that could contribute substantially to regional and national development. In order to find solutions to issues of much importance, basic and applied science research is now aimed to disseminate this knowledge to the Omani population as well as the international community, which would result in continuous improvements to the quality of human life.

2. Program Outline

The Bachelor of Veterinary Medicine is designed to provide a solid background in the physical and social sciences along with a variety of courses in veterinary medicine. The program is focused not only with the normal anatomy and physiology of animals, but also with disease processes, clinical diagnosis, and clinical management responsibilities which set the veterinary profession apart from other animal, biological, and zoological science professions. The program encompasses comprehensive training in all basic and clinical sciences with relation to a variety of species, including food-producing animals, horses, companion animals, exotic pets and wildlife.

Hence, the program aims to produce veterinarians with a strong foundation of basic biomedical knowledge and with the ability to apply this information in a problem-solving setting in order to give quality patient care and to contribute to scientific knowledge for the overall welfare of animals, human beings, and the environment.

3. Program Goals

The specific objectives of this program are:

1. Demonstrate a broad working knowledge of the scientific concepts, principles, and processes relevant to the current practice of veterinary medicine.

2. Obtain, evaluate and apply new knowledge in the diagnosis, treatment and prevention of animal diseases.
3. Demonstrate familiarity with the ethics of the medical profession in dealing with animals, animal owners, professional colleagues and society.
4. Demonstrate a good understanding of the role of scientific research in the advancement of medical knowledge.
5. Demonstrate good oral and written communication skills with animal owners, colleagues, team members, and the general public.
6. Demonstrate the ability to apply basic disease prevention and health promotion practices to sick animals.
7. Demonstrate a good experience with zoonotic and communicable diseases' prevention and control and put in place a program to prevent the spreading of food borne diseases from animals to human.

4. Learning Outcomes Definitive

Upon successful completion of the program, students will be able to:

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| <p>A. KNOWLEDGE AND UNDERSTANDING</p> | <ul style="list-style-type: none"> • Identify the causes, methods of their transmission, diagnosis and treatment of animal diseases and the usage of different medications, their doses, withdraw time and side effects in treating sick animals. • Understand the prospects of veterinary medicine carrier and building students' positive attitudes in veterinary profession and ethics to improve animal welfare. • Design effective plans to control animal diseases and prevent their spread to humans. • Develop skills in analyzing the laboratory samples from diseased animals for diagnostic purposes. • Apply sophisticated technology in courses such as artificial insemination & embryo transfer technology to improve animal breeds and their production. • Evaluate and judge of animal health in the Sultanate of Oman and compare it with other countries at regional and international levels. • Ability to create an entrepreneur business in dairy animal farms to increase milk & meat production |
| <p>B. SUBJECT-SPECIFIC INTELLECTUAL SKILLS</p> | <ul style="list-style-type: none"> • Demonstrate the different modern laboratory techniques for isolation and identification of different microorganisms. • Analyze the problems and their causes to reach the |



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| | <p>appropriate solution for them on scientific bases.</p> <ul style="list-style-type: none"> • Assess the quality of dairy products, meat, edible fats, oils and eggs and their suitability for human consumptions. • Analyze the physiological data concerning the environmental variables and identify the different metabolic pathways inside the body. • Evaluate the immune response by using recent specific and sensitive assays. • Analyze infertility problems and overcome them. • Correlate between the diseases and their etiologies to classify the different diseases in farm animals, birds and fish through using the diagnostic methods and to select suitable treatment and preventive measures. • Demonstrate a practical ability to apply and analyze knowledge of biophysics, biology, organic and inorganic chemistry and computer. |
| <p>C. PROFESSIONAL / PRACTICAL SKILLS</p> | <ul style="list-style-type: none"> • Examine the different body organs of live animals. • Examine different tissues among animals microscopically to identify them. • Determine the various biochemical components of body fluids and identify different biochemical compounds in vitro. • Apply laboratory tests dealing with physiological function tests. • Practice, manipulate and restrain of farm and pet animals and poultry in a safe and humane manner. • Apply pathological techniques to achieve a definite diagnosis in farm animals, birds and fishes. • Operate the control measures of parasitic infestation. • Investigate virus, viral antigen, viral antibodies, and viral nucleic acids in clinical samples. • Handle with the systemic, metabolic and nutritional deficiency diseases among farm, pet and zoo animals. • Acquire an experience in modern diagnostic tests and vaccinate the animals' infectious diseases. • Operate the aquaculture projects in addition to diagnose and treat the aquatic animal problems. |



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| | <ul style="list-style-type: none"> • Apply the different diagnostic methods such as clinical and modern equipment devices to treat the infertility problems in both male and female animals. • Use the chemical restrains methods for surgical patient to use the available diagnostic tools (Radiology and sonar) and to perform some surgical operations in farm animals. • Prepare a therapy program, preventive and control agenda for poultry farms. • Examine the fitness of human food from animal origin for consumption and detect the biochemical residues in it. • Figure out the drug-drug interaction panorama in the veterinary field. • Operate the husbandry program, record and analyze production data. |
| <p>D. GENERAL COMPETENCE</p> | <p>Communication</p> <ul style="list-style-type: none"> • Recognize and value communication as a tool for negotiating and creating new understanding. • Interact with others, and furthering their own learning. • Acknowledge differences and able to adapt to difference of opinions while being open minded • Exercise assertiveness while accepting feedback at the same time. • Provide specific details supported by scientific data and publication. • Demonstrate good oral and written communication skills with animal owners, colleagues, team members, and the general public. <p>Teamwork and interpersonal skills</p> <ul style="list-style-type: none"> • Perform live projects as a team and contribute to strengthen each other's weaknesses • Take responsibility and claiming ownership for their responsibility while working in a team • Cooperate and listen to team members <p>Information literacy and study skills</p> <ul style="list-style-type: none"> • Recognize need for information and distinguish ways of addressing gap and select appropriate sources. |



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| | <ul style="list-style-type: none"> • Locate strategically and access information to construct research strategies. • Compare and evaluate information. • Synthesize and create missing information. • Apply current literature review to medical cases. <p>Numeracy</p> <ul style="list-style-type: none"> • Demonstrate good sampling and minimize technical errors. • Appreciate issues of sample selection, accuracy, precision and uncertainty during collection, recording and analysis of data in the field and laboratory • Calculate chromosome number and karyotyping of different species • Prepare process, interpret and present data using appropriate qualitative and quantitative techniques and software packages. • Prepare the ration formulation for different animals, birds and fish according to their requirements. <p>Leadership and entrepreneurship</p> <ul style="list-style-type: none"> • Develop good problem solving and decision making abilities • Evaluate and assess market needs for new veterinary developments. • Lead clinical trials for veterinary cases. • Assess animal production enterprises and their economic problems to achieve maximal profits. • Recognize the role of scientific research in the advancement of medical knowledge. |
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5. PROGRAM STRUCTURE

Students must achieve the required credit hours for the program by completing University Required and Elective courses listed in sections 5.1 to 5.5 below:

5.1 University Requirements: Total Credit hours 12



| Course Code | Course Title | Pre-Requisites (P) Co-Requisites (C) | Credit hours |
|-------------|---------------------------------|---|--------------|
| ENGL101 | English Communication Skills I | | 3 |
| ENGL102 | English Communication Skills II | ENGL101 | 3 |
| ARAB101 | Arabic | | 3 |
| MNGT313 | Entrepreneurship | | 3 |
| TOTAL | | | 12 |

5.2 University Electives: Total Credit hours **Nil**

5.3 College Requirements: Total Credit hours **12**

| Course Code | Course Title | Pre-Requisites (P) Co-Requisites (C) | Credit hours |
|-------------|-----------------|---|--------------|
| BIOL101 | Biology 1 | BIOL181 Lab | 3 |
| BIOL181 Lab | Biology 1 Lab | BIOL101 | 1 |
| CHEM101 | Chemistry 1 | CHEM181 Lab | 3 |
| CHEM181 Lab | Chemistry 1 Lab | CHEM101 | 1 |
| PHYS101 | Physics 1 | PHYS181 Lab | 3 |
| PHYS181 Lab | Physics 1 Lab | PHYS101 | 1 |

5.4 Program Requirements: Total Credit hours **128**

| Course Code | Course Title | Pre-Requisites (P) Co-Requisites (C) | Credit hours |
|-------------|------------------|---|--------------|
| VTMD102 | Biochemistry | CHEM101 | 3 |
| VTMD182-Lab | Biochemistry lab | CHEM181Lab | 1 |



5.4 Program Requirements:

Total Credit hours

128

| Course Code | Course Title | Pre-Requisites (P) Co-Requisites (C) | Credit hours |
|-------------|--------------------------------------|---|--------------|
| VTMD101 | Veterinary Anatomy-1 | BIOL101 | 3 |
| VTMD181Lab | Veterinary Anatomy-1 Lab | BIOL181 Lab | 1 |
| VTMD112 | Veterinary Physiology-1 | BIOL101 | 3 |
| VTMD192Lab | Veterinary Physiology-1 Lab | BIOL181 Lab | 1 |
| VTMD211 | Veterinary Anatomy-2 | VTMD101 | 3 |
| VTMD281Lab | Veterinary Anatomy-2 Lab | VTMD181Lab | 1 |
| VTMD212 | Veterinary Physiology-2 | VTMD112 | 3 |
| VTMD282Lab | Veterinary Physiology-2 Lab | VTMD192 Lab | 1 |
| VTMD213 | Animal Husbandry | BIOL101 | 3 |
| VTMD283Lab | Animal Husbandry Lab | BIOL 181 Lab | 1 |
| BIOL201 | Microbiology | BIOL101 | 3 |
| BIOL281 Lab | Microbiology Lab | BIOL181 Lab | 1 |
| VTMD222 | Veterinary Histology &Embryology | VTMD101 | 3 |
| VTMD292 Lab | Veterinary Histology &Embryology Lab | VTMD181 Lab | 1 |
| VTMD223 | Animal Genetics &Breeding | VTMD102 | 2 |
| VTMD311 | General Veterinary Pathology | VTMD101 VTMD222 | 3 |
| VTMD381 | General Veterinary Pathology Lab | VTMD181Lab VTMD292Lab | 1 |
| VTMD 322 | Veterinary Microbiology | BIOL201 | 3 |
| VTMD 392Lab | Veterinary Microbiology Lab | BIOL281 Lab | 1 |
| VTMD312 | Veterinary Parasitology | BIOL101 | 3 |



5.4 Program Requirements:

Total Credit hours

128

| Course Code | Course Title | Pre-Requisites (P) Co-Requisites (C) | Credit hours |
|-------------|--|---|--------------|
| VTMD382 Lab | Veterinary Parasitology-Lab | BIOL181 | 1 |
| VTMD313 | Veterinary Pharmacology | BIOL102 VTMD112 | 3 |
| VTMD321 | Systemic Veterinary Pathology | VTMD311 | 3 |
| VTMD391Lab | Systemic Veterinary Pathology Lab | VTMD381 Lab | 1 |
| VTMD421 | Avian Management | VTMD213 | 2 |
| VTMD323 | Veterinary Immunology | BIOL201 | 3 |
| VTMD324 | General Veterinary Medicine& Surgery | VTMD311 | 2 |
| VTMD393 Lab | General Veterinary Medicine& Surgery- Lab | VTMD381 | 1 |
| VTMD325 | Animal Nutrition | VTMD213 | 3 |
| VTMD333 | Veterinary Forensic Pathology | VTMD321 | 3 |
| VTMD334 | Veterinary Toxicology | VTMD313 | 2 |
| VTMD411 | Veterinary Internal Medicine-1 | VTMD324 | 3 |
| VTMD412 | Veterinary Surgery-1 | VTMD324 | 3 |
| VTMD413 | Veterinary Infectious & Zoonotic Diseases | VTMD322 | 3 |
| VTMD414 | Veterinary Obstetrics & Theriogenology | VTMD324 | 3 |
| VTMD415 | Veterinary Clinical Pathology | VTMD322 VTMD312 | 2 |
| VTMD485 Lab | Veterinary Clinical Pathology Lab | VTMD392 Lab VTMD382 Lab | 1 |
| VTMD 511 | Avian Diseases | VTMD421 | 3 |
| VTMD422 | Veterinary Artificial Insemination & Embryo Transfer | VTMD414 | 2 |
| VTMD423 | Veterinary Diagnostic Imaging | VTMD324 | 2 |


5.4 Program Requirements: Total Credit hours 128

| Course Code | Course Title | Pre-Requisites (P) Co-Requisites (C) | Credit hours |
|-------------|--|---|--------------|
| VTMD424 | Veterinary Surgery-2 | VTMD412 | 3 |
| VTMD444 | Veterinary Internship | VTMD311 | 3 |
| VTMD 512 | Veterinary Anesthesiology | VTMD412 | 2 |
| VTMD425 | Veterinary Clinic-1 | VTMD324 | 3 |
| VTMD513 | Veterinary Epidemiology& Biostatistics | STAT201 | 3 |
| VTMD514 | Milk & Meat Hygiene | VTMD321 | 2 |
| VTMD584Lab | Milk & Meat Hygiene Lab | VTMD391 Lab | 1 |
| VTMD515 | Veterinary Clinic-2 | VTMD425 | 6 |
| MSAF421 | Fish Diseases | VTMD324 | 3 |
| VTMD522 | Veterinary Internal Medicine-2 | VTMD411 | 3 |
| VTMD524 | Case-Report Seminar | VTMD425 | 1 |
| VTMD525 | Animal Welfare & Ethics | VTMD425 | 2 |
| VTMD526 | Veterinary Clinic-3 | VTMD515 | 6 |

5.5 Program Electives: Total Credit hours 6

(Choose any two courses)

| Course Code | Course Title | Pre-Requisites (P) Co-Requisites (C) | Credit hours |
|-------------|----------------------|---|--------------|
| FSHNF313 | Food Microbiology | | 3 |
| MSAF302 | Fisheries Management | | 3 |



5.5 Program Electives: Total Credit hours 6

(Choose any two courses)

| Course Code | Course Title | Pre-Requisites (P) Co-Requisites (C) | Credit hours |
|-------------|---------------------------|---|--------------|
| FSHN F416 | Meat & Poultry Technology | | 3 |
| VTMD521 | Toxicology | | 3 |
| FSHN F211 | Food Sanitation | | 3 |
| FSHN F415 | Dairy Technology | | 3 |

6. PROGRAM REFERENCE POINTS

This Program has been designed with reference to:

1. Minister of Agriculture and Fisheries Decision No. 12/84 on the rules and specifications required to establish private veterinary clinics.
2. Minister of Agriculture and Fisheries Decision No. 41/97 on the conditions of the veterinary profession and its assistant veterinary work.
3. Benchmarked similar program in universities like College of Veterinary Medicine, Kansas State University, USA, College of Veterinary Medicine, Oklahoma University, USA., College of Veterinary Medicine, University of Queensland, Australia. College of Veterinary Medicine, Jordan University of Science & Technology, Jordan. College of Veterinary Medicine, King Faisal University, Saudi Arabia.

7. TEACHING AND LEARNING METHODS (indicative)

This program contains courses with lectures, literature-based research, clinical case studies, clinical skills training, collaborative learning, problem solving in classrooms, clinical pathological demonstrations, debates, library projects, oral presentations, tutorials, seminars, self-directed learning, collaborative learning, practical classes in the laboratory, live projects as well as workplace visits. Through a series of lectures, classroom discussions, laboratory work and other advanced pedagogic techniques the students will gain the support knowledge essential for the successful practice as a veterinarian. By means of

integration of theory, experiment, investigation, laboratory and clinical work students acquire skills necessary for Scientific and Evidence Base of Practice. The seminars, class room presentations and other leadership activities performed by the students during their course of study in this program will enable them to meet professional practice expectations in the fields of veterinary medicine. Appropriate clinical training provided in this program by means of theory and practice, the students will be able to achieve the development of principles into practice and quantitative and qualitative approaches to information. By learning the principles of systems management, the students will acquire the ability to strategically apply those in the provision of services to individuals, organizations and industries leading to professional customer service.

8. ASSESSMENT METHODS (Indicative)

Assessment will be formative along with summative using different forms, including examinations (written, oral or practical). To incorporate continuous assessment, students will have assignments, quizzes and two mid semester exams. Assessments based on real-life problems, with employer involvement and with effective feedback, are valuable and will be included wherever possible.

9. CAREER and STUDY OPPORTUNITIES

Veterinary graduates have a wide range of governmental and nongovernmental career opportunities such as:

1. Veterinarians at veterinary hospitals, animal, poultry and fish farms.
2. Private practitioners in a private clinic that provides health exams, vaccinations, treatment of ill animals, surgery, and emergency care.
3. Inspector at Industries for preparing meat and milk by products.
4. Consultants in pharmaceutical companies for veterinary drug manufacturers and their marketing centers.
5. Veterinary specialist in diagnostic laboratories.
6. Research veterinarians in private pharmaceutical and private research laboratories, universities, and various government agencies.
7. Educators in colleges and universities.

10. STUDENT SUPPORT

Students attend an orientation program at the start of their studies. They are supported by a Course Coordinator and the Head of Department is also available to advise on program-related queries.



Academic advising is an essential element of the educational process. Students are assigned academic advisors who help them in selecting their course of study and in planning their schedules. Academic advisors also approve students' schedules each semester. The academic advisor assists students in obtaining a well-balanced education and in interpreting university policies and procedures, it is ultimately the students' individual responsible for selecting their courses, meeting course prerequisites, and adhering to university policies and procedures. Students may also consult faculty, department or program chairs, program coordinators, and deans.

Students have access to the University's library with a range of reading materials, online resources and study support.

The University's Student Affairs Office supports students in adjusting to university life and advises on issues such as finance, regulations, legal matters, accommodation, transportation, disabilities and career guidance. Opportunities are also provided for students to participate in various extra-curricular activities.

The Student Council is also an important source of support and guidance.

The University has a Student Fund which considers applications on a case by case basis.

11. PROGRAM STRUCTURE DIAGRAM

Course Allocation Plan for Five Year Bachelor of Veterinary Medicine, College of Applied Health and Sciences

| Year 1 | | Year 2 | | Year 3 | | Year 4 | | Year 5 | |
|---|---|--|--|---|---|---|--|--|---|
| Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring | Fall | Spring |
| ENGL101 English Comm. Skills I (UR) P: Nil C: Nil CH: 3 | VTMD102 Biochemistry (DR) P: CHEM101 C: VTMD192 CH: 3 | VTMD211 Vet Anatomy-2 (DR) P: VTMD101 C: VTMD281 CH: 3 | BIOL 201 Microbiology (DR) P: BIOL101 C: BIOL281 CH: 3 | VTMD311 Gen. Vet Pathology (DR) P: VTMD101, VTMD222 C: VTMD381 CH: 3 | VTMD321 Sys. Vet. Pathology (DR) P: VTMD311 C: VTMD391 CH: 3 | VTMD411 Vet. Internal Medicine-1 (DR) P: VTMD324 CH: 3 | VTMD511 Avian Diseases (DR) P: VTMD421 CH: 3 | MSAF421 Fish Diseases P: VTMD324 CH: 3 | Major Elective 2 CH: 3 |
| (BIOL 101) Biology I (CR) P: Nil C: BIOL181 CH: 3 | VTMD192 Biochemistry Lab (DR) P: CHEM181 C:VTMD102 CH: 1 | VTMD281 Vet Anatomy-2Lab (DR) P: VTMD181 C: VTMD211 CH: 1 | (BIOL 281) Microbiology Lab (DR) P: BIOL181 C: BIOL201 CH: 1 | VTMD381 Gen Vet Pathology Lab (DR) P: VTMD181, VTMD292 C: VTMD311 CH: 1 | VTMD391 Lab Sys. Vet Path Lab (DR) P: VTMD181 C: VTMD321 CH: 1 | VTMD412 Vet Surgery-1 (DR) P: VTMD324 CH: 3 | VTMD422 Vet. Art. Insemination and Embryo Transfer (DR) P: VTMD414 CH: 2 | VTMD513 Vet Epidemiology & Biostatistics (DR) P: VTMD413 CH: 3 | VTMD522 Vet Int Medicine-2 (DR) P: VTMD411 CH: 3 |
| (BIOL181) Biology I Lab (CR) P: Nil C: BIOL101, CH: 1 | VTMD101 Vet. Anatomy-1 (DR) P: BIOL101 C: VTMD181 CH: 3 | VTMD212 Vet. Physiology-2 (DR) P: VTMD112 C: VTMD282 CH: 3 | VTMD222 Vet Histy & Embry. (DR) P: VTMD101 C: VTMD292 CH: 2 | VTMD322 Vet Microbiology (DR) P: BIOL201 C: VTMD392 CH: 3 | VTMD421 Avian Management (DR) P: VTMD213 CH: 2 | VTMD413 Vet Infectious & zoonotic diseases (DR) P: VTMD322 CH: 3 | VTMD423 Vet Diagnostic Imaging (DR) P: VTMD324 CH: 2 | VTMD514 Milk and Meat Hygiene (DR) P: VTMD321 C:VTMD584 CH: 2 | VTMD524 Case report Seminar (DR) P: VTMD425 CH: 1 |
| (CHEM101) Chemistry I (CR) P: Nil C: CHEM181 CH: 3 | VTMD181 Vet Anatomy-1Lab (DR) P: BIOL181 C: VTMD101 CH: 1 | VTMD282 Vet Physiology-2Lab (DR) P: VTMD192 C: VTMD212 CH: 1 | VTMD292 Vet. Hist &Embry Lab (DR) P: VTMD181 C: VTMD222 CH: 1 | VTMD392 Vet. Microbiology Lab (DR) P: BIOL281 C: VTMD322 CH: 1 | VTMD323 Vet Immunology (DR) P:BIOL201 CH:3 | VTMD414 Vet Obstetrics &Theriogenology (DR) P: VTMD324 CH: 3 | VTMD424 Veterinary Surgery-2 (DR) P: VTMD412 CH: 3 | VTMD584 Milk &Meat Hygiene Lab (DR) P: VTMD391 CH: 1 | VTMD525 Animal welfare & Ethics (DR) P: VTMD425 CH: 2 |
| CHEM181 Chemistry I Lab (CR) P: Nil C: CHEM101 CH: 1 | VTMD112 Vet Physiology-1 (DR) P: BIOL101 C: VTMD182 CH: 3 | VTMD213 Animal Husbandry (DR) P: BIOL101 C: VTMD283 CH: 3 | VTMD223 Animal Genetics and breeding P: VTMD102 CH: 2 | VTMD312 Vet Parasitology (DR) P: BIOL101 C: VTMD382 CH: 3 | VTMD324 Gen Vet Med Surgery (DR) P:VTMD311 C:VTMD393 CH:2 | VTMD415 Vet Clinic Path (DR) P: VTMD322, VTMD312 C:VTMD485 CH: 2 | VTMD512 Veterinary Anesthesiology (DR) P: VTMD412 CH: 2 | VTMD515 Veterinary Clinic-2 (DR) P: VTMD425 CH: 6 | VTMD526 Veterinary Clinic-3 (DR) P: VTMD515 CH: 6 |
| PHYS101 Physics I (CR) P: Nil C: PHYS181 CH: 3 | VTMD192 Vet Physiology-1 (DR) P: BIOL181 C: VTMD112 CH: 1 | VTMD283 Animal Husb. Lab (DR) P: BIOL181Lab C: VTMD213 CH: 1 | Major Elective -1 | VTMD382 Vet Parasit. Lab (DR) P: BIOL181 C: VTMD312 CH: 1 | VTMD393 Gen Vet Med Surgery Lab (DR) P:VTMD381 C:VTMD324 CH:1 | VTMD485 Vet Cl. Pathology Lab (DR) P: VTMD392, VTMD382 CH: 1 | VTMD425 Vet Clinic-1 (DR) P: VTMD324 CH: 3 | | <i>UR- Univ. Requirement, , DR- Department Requirement,</i> |
| PHYS181 Physics I Lab (CR) P: Nil C: PHYS101 CH: 1 | ARAB101 Arabic (UR) CH: 3 | (MNGT313) Entrepreneurship (UR), P: Nil, C: Nil, CH: 3 | ENGL102 English -2 (UR) P: ENGL101 CH: 3 | VTMD313 Vet Pharmacology (DR) P: VTMD102, VTMD112 CH: 3 | VTMD325 Animal Nutrition (DR) P:VTMD213 CH:3 | <i>Third Year Summer Courses</i> VTMD 333 Vet. Forensic Pathology CH: 3 P: VTMD321 VTMD334Vet Toxicology CH:2 P: VTMD 313 | <i>Fourth Year Summer Courses</i> VTMD 444 Vet. Internship CH:3 P: VTMD311 | CH: Credit Hours P: Pre-requisite C: Co-requisite | |

PROGRAM SPECIFICATION

12. MAPPING of ASSESSMENT of LEARNING OUTCOMES YEAR 1

Required Courses:

KEY: **F** = Formative assessment **S** = Summative assessment **FS** = Formative AND Summative assessment

| Upon completion of the program, students will be able to: | REQUIRED COURSES: | | | | | | | | | | | | | |
|--|-------------------|------------|---------|------------|---------|------------|----------|---------|---------|------------|---------|------------|---------|------------|
| | BIOL 101 | Bio181 Lab | CHEM101 | CHEM181Lab | PHYS101 | PHYS181Lab | ARAB 101 | ENGL101 | VTMD101 | VTMD181Lab | VTMD102 | VTMD182Lab | VTMD112 | VTMD192Lab |
| KNOWLEDGE AND UNDERSTANDING | | | | | | | | | | | | | | |
| Administer and prescribe medications and treatments to animals. | | | | | | | | | FS | FS | | | FS | FS |
| Apply medical and surgical procedures to animals. | | | | | | | | | FS | FS | | | FS | FS |
| Advise clients about the care of animals. | | | | | | | | | FS | FS | | | FS | FS |
| Assist with treating and caring for animals. | | | | | | | | | FS | FS | | | FS | FS |
| Diagnose and treat animals as a result of evaluating and interpreting clinical observations and tests. | | | | | | | | | FS | FS | | | FS | FS |
| Observe, monitor and report changes in an animal's condition. | | | | | | | | | FS | FS | | | FS | FS |
| Put a plan to control and prevent infectious diseases that affect animals with special emphasis on infectious diseases of zoonotic importance. | | | | | | | | | FS | FS | | | FS | FS |
| Induce anesthesia and conduct surgical procedures as required. | | | | | | | | | FS | FS | | | FS | FS |
| Treat animals that suffer from obstetrical and gynecology diseases. | | | | | | | | | FS | FS | | | FS | FS |
| Improve breeding of animals by artificial insemination and embryo transfer. | | | | | | | | | FS | FS | | | FS | FS |

PROGRAM SPECIFICATION

| Upon completion of the program, students will be able to: | REQUIRED COURSES: | | | | | | | | | | | | | |
|---|-------------------|------------|---------|------------|---------|------------|----------|---------|---------|------------|---------|------------|---------|------------|
| | BIOL 101 | Bio181 Lab | CHEM101 | CHEM181Lab | PHYS101 | PHYS181Lab | ARAB 101 | ENGL101 | VTMD101 | VTMD181Lab | VTMD102 | VTMD182Lab | VTMD112 | VTMD192Lab |
| Select a balanced ration from the conventional and non-conventional feedstuffs and analyze its constituents. | | | | | | | | | | | FS | FS | | |
| Inspect meat and milk quality to be fit for human conception. | | | | | | | | | | | FS | FS | | |
| SUBJECT-SPECIFIC INTELLECTUAL SKILLS | | | | | | | | | | | | | | |
| Demonstrate the different modern laboratory techniques for isolation and identification of different microorganisms. | FS | FS | | FS | | | | | FS | FS | FS | FS | FS | FS |
| Analyze the problems and their causes to reach the appropriate solution for them on scientific bases. | FS | FS | | FS | | | | | FS | FS | FS | FS | FS | FS |
| Assess the quality of dairy products, meat, edible fats, oils and eggs and their suitability for human consumptions. | | | | | | | | | | | FS | FS | | |
| Analyze the physiological data concerning the environmental variables and identify the different metabolic pathways inside the | FS | | | | | | | | FS | FS | | | FS | FS |
| Evaluate the immune response by using recent specific and sensitive assays. | FS | | | | | | | | FS | FS | | | FS | FS |
| Analyze infertility problems and overcome them. | | | | | | | | | | | | S | | S |
| Correlate between the diseases and their etiologies to classify the different diseases in farm animals, birds and fish through using the diagnostic methods and to select suitable treatment and preventive measures. | | | | | | | | | FS | FS | | | FS | FS |
| Demonstrate a practical ability to apply and analyze knowledge of biophysics, biology, organic and inorganic chemistry and computer. | FS | FS | FS | FS | FS | FS | | | | | | | | |

PROGRAM SPECIFICATION

Required Courses:

KEY: F = Formative assessment S = Summative assessment FS = Formative AND Summative assessment

| Upon completion of the program, students will be able to: | REQUIRED COURSES: | | | | | | | | | | | | | |
|--|-------------------|-------------|---------|------------|---------|------------|----------|---------|---------|------------|---------|------------|---------|------------|
| | BIOL 101 | Biol181 Lab | CHEM101 | CHEM181Lab | PHYS101 | PHYS181Lab | ARAB 101 | ENGL101 | VTMD101 | VTMD181Lab | VTMD102 | VTMD182Lab | VTMD112 | VTMD192Lab |
| PROFESSIONAL AND PRACTICAL SKILLS | | | | | | | | | | | | | | |
| Examine the different body organs of live animals. | | FS | | | | | | | | | | | | |
| Examine different tissues among animals microscopically to identify them. | | FS | | | | | | | | | | | | |
| Determine the various biochemical components of body fluids and identify different biochemical compounds in vitro. | | | | FS | | | | | | | | FS | | FS |
| Apply laboratory tests dealing with physiological function tests. | | | | | | | | | | | | | | FS |
| Practice, manipulate and restrain of farm and pet animals and poultry in a safe and humane manner. | | | | | | | | | | FS | | FS | | FS |
| Apply pathological techniques to achieve a definite diagnosis in farm animals, birds and fishes. | | | | | | | | | | | | | | FS |
| Operate the control measures of parasitic infestation. | | | | | | | | | | | | | | FS |
| Investigate virus, viral antigen, viral antibodies, and viral nucleic acids in clinical samples. | | FS | | | | | | | | | | | | FS |
| Handle with the systemic, metabolic and nutritional deficiency diseases among farm, pet and zoo animals. | | | | | | | | | | | FS | FS | | |
| Acquire an experience in modern diagnostic tests and vaccinate the animals' infectious diseases. | | | | | | | | | | | | | FS | FS |
| Operate the aquaculture projects in addition to diagnose and treat the aquatic animal problems. | | | | | | | | | FS | | | | | |

PROGRAM SPECIFICATION

Upon completion of the program, students will be able to:

REQUIRED COURSES:

| | BIOL 101 | Bio181 Lab | CHEM101 | CHEM181Lab | PHYS101 | PHYS181Lab | ARAB 101 | ENGL101 | VTMD101 | VTMD181Lab | VTMD102 | VTMD182Lab | VTMD112 | VTMD192Lab |
|--|----------|------------|---------|------------|---------|------------|----------|---------|---------|------------|---------|------------|---------|------------|
| Apply the different diagnostic methods such as clinical and modern equipment devices to treat the infertility problems in both male and female animals. | | | | | | | | | | FS | | | | FS |
| Use the chemical restrains methods for surgical patient to use the available diagnostic tools (Radiology and sonar) and to perform some surgical operations in farm animals. | | | | FS | | | | | | | | | | |
| Prepare a therapy program, preventive and control agenda for poultry farms. | | | | | | | | | FS | | | | | |
| Examine the fitness of human food from animal origin for consumption and detect the biochemical residues in it. | | | | | | | | | | | FS | | | |
| Figure out the drug-drug interaction panorama in the veterinary field. | | | | | | | | | | | | | FS | |
| Operate the husbandry program, record and analyze production data. | | | | | | | | | FS | | | | FS | |
| GENERAL COMPETENCE (INCLUDING EMPLOYABILITY) | | | | | | | | | | | | | | |
| Communication | | | | | | | | | | | | | | |
| Recognize and value communication as a tool for negotiating and creating new understanding. | | | | | | | FS | FS | | | | | | |
| Interact with others, and furthering their own learning. | | | | | | | FS | FS | | | | | | |
| Acknowledge differences and able to adapt to difference of opinions while being open minded | | | | | | | FS | FS | | | | | | |
| Exercise assertiveness while accepting feedback at the same time. | FS | FS | FS | FS | FS | FS | | | FS | FS | FS | FS | FS | FS |
| Provide specific details supported by scientific data and publication. | FS | FS | FS | FS | FS | FS | | | FS | FS | FS | FS | FS | FS |
| Demonstrate good oral and written communication skills with animal owners, colleagues, team members, and the general public. | | | | | | FS | FS | | | | | | | |
| Teamwork and interpersonal skills | | | | | | | | | | | | | | |

PROGRAM SPECIFICATION

Upon completion of the program, students will be able to:

REQUIRED COURSES:

| | BIOL 101 | Bio181 Lab | CHEM101 | CHEM181Lab | PHYS101 | PHYS181Lab | ARAB 101 | ENGL101 | VTMD101 | VTMD181Lab | VTMD102 | VTMD182Lab | VTMD112 | VTMD192Lab |
|---|----------|------------|---------|------------|---------|------------|----------|---------|---------|------------|---------|------------|---------|------------|
| Perform live projects as a team and contribute to strengthen each other's weaknesses | | FS | | FS | | FS | | | | FS | | FS | | FS |
| Take responsibility and claiming ownership for their responsibility while working in a team. | | FS | | FS | | FS | | | | FS | | FS | | FS |
| Cooperate and listen to team members. | | FS | | FS | | FS | | | | FS | | FS | | FS |
| Information literacy and study skills | | | | | | | | | | | | | | |
| Recognize need for information and distinguish ways of addressing gap and select appropriate sources. | FS | FS | FS | FS | FS | FS | | | FS | FS | FS | FS | FS | FS |
| Locate strategically and access information to construct research strategies. | FS | FS | FS | FS | FS | FS | | | FS | FS | FS | FS | FS | FS |
| Compare and evaluate information. | FS | FS | FS | FS | FS | FS | | | FS | FS | FS | FS | FS | FS |
| Synthesize and create missing information. | FS | FS | FS | FS | FS | FS | | | FS | FS | FS | FS | FS | FS |
| Apply current literature review to medical cases. | | | | | | | | | FS | FS | FS | FS | FS | FS |
| Numeracy | | | | | | | | | | | | | | |
| Demonstrate good sampling and minimize technical errors. | | FS | | FS | | | | | | | | | | |
| Appreciate issues of sample selection, accuracy, precision and uncertainty during collection, recording and analysis of data in the field and laboratory. | | | | | | | | | | FS | | | | FS |
| Calculate chromosome number and karyotyping of different species. | FS | FS | | | | | | | | | | | | |
| Prepare process, interpret and present data using appropriate qualitative and quantitative techniques and software packages. | | FS | | FS | | | | | | FS | | FS | | FS |
| Prepare the ration formulation for different animals, birds and fish according to their requirements. | | | | | | | | | FS | FS | | | | |
| Leadership and entrepreneurship | | | | | | | | | | | | | | |

PROGRAM SPECIFICATION

| Upon completion of the program, students will be able to: | REQUIRED COURSES: | | | | | | | | | | | | | |
|--|-------------------|-------------|---------|------------|---------|------------|----------|---------|---------|------------|---------|------------|---------|------------|
| | BIOL 101 | Biol181 Lab | CHEM101 | CHEM181Lab | PHYS101 | PHYS181Lab | ARAB 101 | ENGL101 | VTMD101 | VTMD181Lab | VTMD102 | VTMD182Lab | VTMD112 | VTMD192Lab |
| Develop good problem solving and decision making abilities. | | | FS | FS | FS | FS | | | | | | | | |
| Evaluate and assess market needs for new veterinary developments. | | | | | | | | | FS | | FS | | FS | |
| Lead clinical trials for veterinary cases. | | | | | | | | | FS | | FS | | FS | |
| Assess animal production enterprises and their economic problems to achieve maximal profits. | | | | | | | | | FS | | | | | |
| Recognize the role of scientific research in the advancement of medical knowledge. | | | | | | | | | FS | | FS | | FS | |

PROGRAM SPECIFICATION

12. MAPPING of ASSESSMENT of LEARNING OUTCOMES YEAR 2

Required Courses:

KEY: F = Formative assessment S = Summative assessment FS = Formative AND Summative assessment

Upon completion of the program, students will be able to:

REQUIRED COURSES:

| | VTMD211 | VTMD281 | VTMD212 | VTMD282 | VTMD213 | VTMD283 | BIOL201 | BIOL281Lab | VTMD222 | VTMD292 | VTMD223 | ENGL102 | ELECTIVE 1 | MNGT313 |
|--|---------|---------|---------|---------|---------|---------|---------|------------|---------|---------|---------|---------|------------|---------|
| KNOWLEDGE AND UNDERSTANDING | | | | | | | | | | | | | | |
| Administer and prescribe medications and treatments to animals. | | FS | | FS | FS | | | | | | | | FS | |
| Apply medical and surgical procedures to animals. | | | | | FS | | | FS | | | | | | |
| Advise clients about the care of animals. | | | | | FS | FS | | | | | | | | |
| Assist with treating and caring for animals. | | | | | FS | FS | | | | | | | | |
| Diagnose and treat animals as a result of evaluating and interpreting clinical observations and tests. | FS | | | | FS | FS | | | | FS | | | S | |
| Observe, monitor and report changes in an animal's condition. | | | | | FS | | FS | | | | | | | |
| Put a plan to control and prevent infectious diseases that affect animals with special emphasis on infectious diseases of zoonotic importance. | | | | | FS | | | | | | FS | | FS | |
| Induce anesthesia and conduct surgical procedures as required. | | FS | | FS | | | | | | | | | | |
| Treat animals that suffer from obstetrical and gynecology diseases. | | | | | | FS | | | | | | | | |
| Improve breeding of animals by artificial insemination and embryo transfer. | | | | | | FS | | FS | FS | | | | | |
| Select a balanced ration from the conventional and non-conventional feedstuffs and analyze its constituents. | | | | | FS | FS | | | | | | | FS | |
| Inspect meat and milk quality to be fit for human conception. | | | | | FS | FS | | | | | | | FS | |
| SUBJECT-SPECIFIC INTELLECTUAL SKILLS | | | | | | | | | | | | | | |

PROGRAM SPECIFICATION

| Upon completion of the program, students will be able to: | REQUIRED COURSES: | | | | | | | | | | | | | |
|---|-------------------|---------|---------|---------|---------|---------|---------|------------|---------|---------|---------|---------|------------|---------|
| | VTMD211 | VTMD281 | VTMD212 | VTMD282 | VTMD213 | VTMD283 | BIOL201 | BIOL281Lab | VTMD222 | VTMD292 | VTMD223 | ENGL102 | ELECTIVE 1 | MNGT313 |
| Demonstrate the different modern laboratory techniques for isolation and identification of different microorganisms. | | FS | | FS | | | | FS | | | | | | |
| Analyze the problems and their causes to reach the appropriate solution for them on scientific bases. | | FS | | FS | | | | FS | | | | | | |
| Assess the quality of dairy products, meat, edible fats, oils and eggs and their suitability for human consumptions. | | | | | FS | FS | | | | | | | | |
| Analyze the physiological data concerning the environmental variables and identify the different metabolic pathways inside the body. | | | FS | FS | | | | | | | | | | |
| Evaluate the immune response by using recent specific and sensitive assays. | | | | | | | FS | FS | | | | | | |
| Analyze infertility problems and overcome them. | | | | | | | | | FS | FS | FS | | | |
| Correlate between the diseases and their etiologies to classify the different diseases in farm animals, birds and fish through using the diagnostic methods and to select suitable treatment and preventive measures. | | | | | FS | FS | | | | | | | | |
| Demonstrate a practical ability to apply and analyze knowledge of biophysics, biology, organic and inorganic chemistry and computer. | | | | | | | | | | | FS | | | |
| PROFESSIONAL AND PRACTICAL SKILLS | | | | | | | | | | | | | | |
| Examine the different body organs of live animals. | | FS | | FS | | | | | | | | | | |
| Examine different tissues among animals microscopically to identify them. | | FS | | FS | | | | | | | | | | |
| Determine the various biochemical components of body fluids and identify different biochemical compounds in vitro. | | | | | | | | | | | FS | | | |
| Apply laboratory tests dealing with physiological function tests. | | | FS | FS | | | | | | | | | | |
| Practice, manipulate and restrain of farm and pet animals and poultry in a safe and humane manner. | | | | | FS | FS | | | | | | | | |

PROGRAM SPECIFICATION

| Upon completion of the program, students will be able to: | REQUIRED COURSES: | | | | | | | | | | | | | |
|--|-------------------|---------|---------|---------|---------|---------|---------|------------|---------|---------|---------|---------|------------|---------|
| | VTMD211 | VTMD281 | VTMD212 | VTMD282 | VTMD213 | VTMD283 | BIOL201 | BIOL281Lab | VTMD222 | VTMD292 | VTMD223 | ENGL102 | ELECTIVE 1 | MNGT313 |
| Apply pathological techniques to achieve a definite diagnosis in farm animals, birds and fishes. | | | | | | | | FS | | FS | | | | |
| Operate the control measures of parasitic infestation. | | | | | | | | | | | FS | | | |
| Investigate virus, viral antigen, viral antibodies, and viral nucleic acids in clinical samples. | | | | | | | | | | | FS | | FS | |
| Handle with the systemic, metabolic and nutritional deficiency diseases among farm, pet and zoo animals. | | | | | FS | | | | | | FS | | | |
| Acquire an experience in modern diagnostic tests and vaccinate the animals' infectious diseases. | | | | | FS | | | | | | FS | | | |
| Operate the aquaculture projects in addition to diagnose and treat the aquatic animal problems. | | | | | FS | FS | | | | | | | | |
| Apply the different diagnostic methods such as clinical and modern equipment devices to treat the infertility problems in both male and female animals. | | | | | | | | | FS | FS | FS | | | |
| Use the chemical restrains methods for surgical patient to use the available diagnostic tools (Radiology and sonar) and to perform some surgical operations in farm animals. | | FS | | FS | | | | | | | | | | |
| Prepare a therapy program, preventive and control agenda for poultry farms. | | | | | FS | FS | | | | | | | | |
| Examine the fitness of human food from animal origin for consumption and detect the biochemical residues in it. | | | | | | | | | | | | | FS | |
| Figure out the drug-drug interaction panorama in the veterinary field. | | | | | | | | | | | | | FS | |
| Operate the husbandry program, record and analyze production data. | | | | | FS | FS | | | | | | | | |
| GENERAL COMPETENCE (INCLUDING EMPLOYABILITY) | | | | | | | | | | | | | | |
| Communication | | | | | | | | | | | | | | |

PROGRAM SPECIFICATION

Upon completion of the program, students will be able to:

REQUIRED COURSES:

| | VTMD211 | VTMD281 | VTMD212 | VTMD282 | VTMD213 | VTMD283 | BIOL201 | BIOL281Lab | VTMD222 | VTMD292 | VTMD223 | ENGL102 | ELECTIVE 1 | MNGT313 |
|--|---------|---------|---------|---------|---------|---------|---------|------------|---------|---------|---------|---------|------------|---------|
| Recognize and value communication as a tool for negotiating and creating new understanding. | | | | | | | | | | | | FS | | |
| Interact with others, and furthering their own learning. | | FS | | FS | | | | FS | | FS | | FS | FS | |
| Acknowledge differences and able to adapt to difference of opinions while being open minded | | FS | | FS | | | | FS | | FS | | FS | FS | |
| Exercise assertiveness while accepting feedback at the same time. | | FS | | FS | | | | FS | | FS | | FS | FS | |
| Provide specific details supported by scientific data and publication. | | FS | | FS | | | | FS | | FS | | FS | FS | |
| Demonstrate good oral and written communication skills with animal owners, colleagues, team members, and the general public. | | | | | | | | | | | | FS | | |
| Teamwork and interpersonal skills | | | | | | | | | | | | | | |
| Perform live projects as a team and contribute to strengthen each other's weaknesses | | FS | | FS | | | | FS | | FS | | | FS | |
| Take responsibility and claiming ownership for their responsibility while working in a team. | | FS | | FS | | | | FS | | FS | | | FS | |
| Cooperate and listen to team members. | | FS | | FS | | | | FS | | FS | | | FS | |
| Information literacy and study skills | | | | | | | | | | | | | | |
| Recognize need for information and distinguish ways of addressing gap and select appropriate sources. | FS | | FS | | FS | | FS | | FS | | | | FS | |
| Locate strategically and access information to construct research strategies. | FS | | FS | | FS | | FS | | FS | | | | FS | |
| Compare and evaluate information. | FS | | FS | | FS | | FS | | FS | | | | FS | |
| Synthesize and create missing information. | FS | | FS | | FS | | FS | | FS | | | | FS | |
| Apply current literature review to medical cases. | FS | | FS | | FS | | FS | | FS | | | | FS | |
| Numeracy | | | | | | | | | | | | | | |

PROGRAM SPECIFICATION

Upon completion of the program, students will be able to:

REQUIRED COURSES:

| | VTMD211 | VTMD281 | VTMD212 | VTMD282 | VTMD213 | VTMD283 | BIOL201 | BIOL281Lab | VTMD222 | VTMD292 | VTMD223 | ENGL102 | ELECTIVE 1 | MNGT313 |
|---|---------|---------|---------|---------|---------|---------|---------|------------|---------|---------|---------|---------|------------|---------|
| Demonstrate good sampling and minimize technical errors. | | FS | | FS | | FS | | FS | | FS | | | FS | |
| Appreciate issues of sample selection, accuracy, precision and uncertainty during collection, recording and analysis of data in the field and laboratory. | | FS | | FS | | FS | | FS | | FS | | | | |
| Calculate chromosome number and karyotyping of different species . | | | | | | | | | FS | FS | | | | |
| Prepare process, interpret and present data using appropriate qualitative and quantitative techniques and software packages. | | FS | | FS | | FS | | FS | | FS | | | | |
| Prepare the ration formulation for different animals, birds and fish according to their requirements. | | | | | FS | FS | | | | | | | | |
| Leadership and entrepreneurship | | | | | | | | | | | | | | |
| Develop good problem solving and decision making abilities. | FS | | | | | | | | FS | | | | | |
| Evaluate and assess market needs for new veterinary developments. | FS | | | | | | | | FS | | FS | | | |
| Lead clinical trials for veterinary cases. | FS | | | | | | | | FS | | FS | | | |
| Assess animal production enterprises and their economic problems to achieve maximal profits. | | | | | | | | | | FS | | | | FS |
| Recognize the role of scientific research in the advancement of medical knowledge. | | | | | | | | | | | | | FS | |

PROGRAM SPECIFICATION

12. MAPPING of ASSESSMENT of LEARNING OUTCOMES YEAR 3

Required Courses:

KEY: F = Formative assessment S = Summative assessment FS = Formative AND Summative assessment

| UPON COMPLETION OF THE PROGRAM, STUDENTS WILL BE ABLE TO: | REQUIRED COURSES: | | | | | | | | | | | | | | | |
|--|-------------------|---------|---------|---------|---------|---------|---------|---------|------------|---------|------------|---------|---------|---------|---------|---------|
| | VTMD311 | VTMD381 | VTMD322 | VTMD392 | VTMD312 | VTMD382 | VTMD313 | VTMD321 | VTMD391Lab | VTMD323 | VTMD393Lab | VTMD324 | VTMD325 | VTMD421 | VTMD333 | VTMD334 |
| KNOWLEDGE AND UNDERSTANDING | | | | | | | | | | | | | | | | |
| Administer and prescribe medications and treatments to animals. | | | | | FS | FS | FS | | | F | | | | | | |
| Apply medical and surgical procedures to animals. | | FS | | | | | | | FS | | | | | | | |
| Advise clients about the care of animals. | | | | | FS | | | | | | | | F | | | |
| Assist with treating and caring for animals. | | | | | | | | | F | | | | | F | | FS |
| Diagnose and treat animals as a result of evaluating and interpreting clinical observations and tests. | | | | | | | | | F | S | | | | | | |
| Observe, monitor and report changes in an animal's condition. | | | | | | | | | F | | | | | | | |
| Put a plan to control and prevent infectious diseases that affect animals with special emphasis on infectious diseases of zoonotic importance. | | | | | FS | FS | | | | | | | | | | FS |
| Induce anesthesia and conduct surgical procedures as required. | | FS | | | | | | | | | | | | | | |
| Treat animals that suffer from obstetrical and gynecology diseases. | | | | | FS | | | | | | | | | | | FS |
| Improve breeding of animals by artificial insemination and embryo transfer. | | | | | | | FS | | | | | | | | | |
| Select a balanced ration from the conventional and non-conventional feedstuffs and analyze its constituents. | | | | | | | | | | | | | F | S | | |
| Inspect meat and milk quality to be fit for human conception. | | | | | | | | | | | | | F | | | |
| SUBJECT-SPECIFIC INTELLECTUAL SKILLS | | | | | | | | | | | | | | | | |

PROGRAM SPECIFICATION

Upon completion of the program, students will be able to:

REQUIRED COURSES:

| | VTMD311 | VTMD381 | VTMD322 | VTMD392 | VTMD312 | VTMD382 | VTMD313 | VTMD321 | VTMD391Lab | VTMD323 | VTMD393Lab | VTMD324 | VTMD325 | VTMD421 | VTMD333 | VTMD334 |
|---|---------|---------|---------|---------|---------|---------|---------|---------|------------|---------|------------|---------|---------|---------|---------|---------|
| Demonstrate the different modern laboratory techniques for isolation and identification of different microorganisms. | | FS | | F S | | FS | | | FS | | F S | | | | FS | |
| Analyze the problems and their causes to reach the appropriate solution for them on scientific bases. | | FS | | F S | | FS | | | FS | | F S | | | | FS | |
| Assess the quality of dairy products, meat, edible fats, oils and eggs and their suitability for human consumptions. | | | | | | | | | | | | | F S | | | |
| Analyze the physiological data concerning the environmental variables and identify the different metabolic pathways inside the body. | | | | | | | | | | | | | F S | | | |
| Evaluate the immune response by using recent specific and sensitive assays. | | | | | | | | | | F | | | | | | |
| Analyze infertility problems and overcome them. | | | | | | | | | | | | | | F | | |
| Correlate between the diseases and their etiologies to classify the different diseases in farm animals, birds and fish through using the diagnostic methods and to select suitable treatment and preventive measures. | | | | | FS | FS | | | | F S | | | | | | |
| Demonstrate a practical ability to apply and analyze knowledge of biophysics, biology, organic and inorganic chemistry and computer. | | | FS | F S | | | | | | | | | | | | |
| PROFESSIONAL AND PRACTICAL SKILLS | | | | | | | | | | | | | | | | |
| Examine the different body organs of live animals. | | FS | | F | | FS | | | FS | | F | | | | FS | |
| Examine different tissues among animals microscopically to identify them. | | FS | | F | | FS | | | FS | | F | | | | FS | |
| Determine the various biochemical components of body fluids and identify different biochemical compounds in vitro. | | | | | | | FS | | | F S | | | | | | |
| Apply laboratory tests dealing with physiological function tests. | | FS | | F | | FS | | | FS | | F | | | | FS | |
| Practice, manipulate and restrain of farm and pet animals and poultry in a safe and humane manner. | | | | | | | | | | | | FS | F S | | | |

PROGRAM SPECIFICATION

| Upon completion of the program, students will be able to: | REQUIRED COURSES: | | | | | | | | | | | | | | | |
|--|-------------------|---------|---------|---------|---------|---------|---------|---------|------------|---------|------------|---------|---------|---------|---------|---------|
| | VTMD311 | VTMD381 | VTMD322 | VTMD392 | VTMD312 | VTMD382 | VTMD313 | VTMD321 | VTMD391Lab | VTMD323 | VTMD393Lab | VTMD324 | VTMD325 | VTMD421 | VTMD333 | VTMD334 |
| Apply pathological techniques to achieve a definite diagnosis in farm animals, birds and fishes. | FS | FS | | | | | | FS | FS | | | | | | FS | FS |
| Operate the control measures of parasitic infestation. | | | | | FS | FS | | | | | | | | | | FS |
| Investigate virus, viral antigen, viral antibodies, and viral nucleic acids in clinical samples. | | | | | FS | FS | FS | | | | | | | | | |
| Handle with the systemic, metabolic and nutritional deficiency diseases among farm, pet and zoo animals. | | | | | | | | | | | | | F S | | | |
| Acquire an experience in modern diagnostic tests and vaccinate the animals' infectious diseases. | | | | | FS | FS | | | F S | | | | | | | FS |
| Operate the aquaculture projects in addition to diagnose and treat the aquatic animal problems. | | | | | | | | | F S | | | | F S | | | |
| Apply the different diagnostic methods such as clinical and modern equipment devices to treat the infertility problems in both male and female animals. | | | | | | | | | | | | FS | F S | | | |
| Use the chemical restrains methods for surgical patient to use the available diagnostic tools (Radiology and sonar) and to perform some surgical operations in farm animals. | | | | | | | | FS | FS | | | FS | | | | |
| Prepare a therapy program, preventive and control agenda for poultry farms. | | | | | | | FS | | | | | | | F S | | |
| Examine the fitness of human food from animal origin for consumption and detect the biochemical residues in it. | | | | | | | | | | | | | F S | | | |
| Figure out the drug-drug interaction panorama in the veterinary field. | | | | | | | FS | | | | | | | | | |
| Operate the husbandry program, record and analyze production data. | | | | | | | | | | | | | | F | | |
| GENERAL COMPETENCE (INCLUDING EMPLOYABILITY) | | | | | | | | | | | | | | | | |
| Communication | | | | | | | | | | | | | | | | |

PROGRAM SPECIFICATION

| Upon completion of the program, students will be able to: | REQUIRED COURSES: | | | | | | | | | | | | | | | |
|--|-------------------|---------|---------|---------|---------|---------|---------|---------|------------|---------|------------|---------|---------|---------|---------|---------|
| | VTMD311 | VTMD381 | VTMD322 | VTMD392 | VTMD312 | VTMD382 | VTMD313 | VTMD321 | VTMD391Lab | VTMD323 | VTMD393Lab | VTMD324 | VTMD325 | VTMD421 | VTMD333 | VTMD334 |
| Recognize and value communication as a tool for negotiating and creating new understanding. | FS | FS | FS | F S | FS | FS | FS | FS | FS | F S | F S | FS | F S | F S | | |
| Interact with others, and furthering their own learning. | | FS | | F | | FS | | | FS | | F | | | | | |
| Acknowledge differences and able to adapt to difference of opinions while being open minded | | FS | | F S | | FS | | | FS | | F S | | | | FS | FS |
| Exercise assertiveness while accepting feedback at the same time. | | FS | | F | | FS | | | FS | | F | | | | | |
| Provide specific details supported by scientific data and publication. | FS | FS | FS | F | FS | FS | FS | FS | FS | F | F | FS | F | F | | |
| Demonstrate good oral and written communication skills with animal owners, colleagues, team members, and the general public. | FS | FS | FS | F S | FS | FS | FS | FS | FS | F S | F S | FS | F S | F S | | |
| Teamwork and interpersonal skills | | | | | | | | | | | | | | | | |
| Perform live projects as a team and contribute to strengthen each other's weaknesses | | FS | | F S | | FS | | | FS | | F S | | | | | |
| Take responsibility and claiming ownership for their responsibility while working in a team. | | FS | | F S | | FS | | | FS | | F S | | | | | |
| Cooperate and listen to team members. | | FS | | F | | FS | | | FS | | F | | | | | FS |
| Information literacy and study skills | | | | | | | | | | | | | | | | |
| Recognize need for information and distinguish ways of addressing gap and select appropriate sources. | S | | | S | | S | | | S | S | S | S | S | S | | |
| Locate strategically and access information to construct research strategies. | | FS | | F | | FS | | | FS | | F | | | | | |
| Compare and evaluate information. | | FS | | F | | FS | | | FS | | F | | | | | |
| Synthesize and create missing information. | | FS | | F | | FS | | | FS | | F | | | | | |
| Apply current literature review to medical cases. | | FS | | F | | FS | | | FS | | F | | | | | FS |
| Numeracy | | | | | | | | | | | | | | | | |

PROGRAM SPECIFICATION

| Upon completion of the program, students will be able to: | REQUIRED COURSES: | | | | | | | | | | | | | | | |
|---|-------------------|---------|---------|---------|---------|---------|---------|---------|------------|---------|------------|---------|---------|---------|---------|---------|
| | VTMD311 | VTMD381 | VTMD322 | VTMD392 | VTMD312 | VTMD382 | VTMD313 | VTMD321 | VTMD391Lab | VTMD323 | VTMD393Lab | VTMD324 | VTMD325 | VTMD421 | VTMD333 | VTMD334 |
| Demonstrate good sampling and minimize technical errors. | | FS | | F | | FS | | | FS | | F | | | | | |
| Appreciate issues of sample selection, accuracy, precision and uncertainty during collection, recording and analysis of data in the field and laboratory. | | FS | | F S | | FS | | | FS | | F S | | | | | |
| Calculate chromosome number and karyotyping of different species . | | FS | | F | | FS | | | FS | | F | | | | | |
| Prepare process, interpret and present data using appropriate qualitative and quantitative techniques and software packages. | | FS | | F S | | FS | | | FS | | F S | | | | | |
| Prepare the ration formulation for different animals, birds and fish according to their requirements. | | | | | | | | | | | | | | F S | | |
| Leadership and entrepreneurship | | | | | | | | | | | | | | | | |
| Develop good problem solving and decision making abilities. | | FS | | F | | FS | | | FS | | F | | | | FS | FS |
| Evaluate and assess market needs for new veterinary developments. | | FS | | F | | FS | | | FS | | F | | | | FS | |
| Lead clinical trials for veterinary cases. | | FS | | F | | FS | | | FS | | F | | | | FS | |
| Assess animal production enterprises and their economic problems to achieve maximal profits. | | FS | | F S | | FS | | | FS | | F S | | | | | |
| Recognize the role of scientific research in the advancement of medical knowledge. | | FS | | F S | | FS | | | FS | | F S | | | | FS | |

PROGRAM SPECIFICATION

12. MAPPING of ASSESSMENT of LEARNING OUTCOMES YEAR 4

Required Courses:

KEY: F = Formative assessment S = Summative assessment FS = Formative AND Summative assessment

Upon completion of the program, students will be able to:

REQUIRED COURSES:

| | VTMD411 | VTMD412 | VTMD413 | VTMD414 | VTMD415 | VTMD485Lab | VTMD511 | VTMD422 | VTMD423 | VTMD424 | VTMD512 | VTMD425 | VTMD444 |
|--|---------|---------|---------|---------|---------|------------|---------|---------|---------|---------|---------|---------|---------|
| KNOWLEDGE AND UNDERSTANDING | | | | | | | | | | | | | |
| KNOWLEDGE AND UNDERSTANDING | | | | | | | | | | | | | |
| Administer and prescribe medications and treatments to animals. | FS | | FS | | | | FS | | | | | FS | FS |
| Apply medical and surgical procedures to animals. | FS | FS | | | FS | FS | | | | FS | FS | FS | FS |
| Advise clients about the care of animals. | | | | | FS | | FS | | | | | FS | FS |
| Assist with treating and caring for animals. | | | | | FS | | FS | | | | | FS | FS |
| Diagnose and treat animals as a result of evaluating and interpreting clinical observations and tests. | FS | | FS | | FS | | FS | | | | | FS | FS |
| Observe, monitor and report changes in an animal's condition. | FS | | | | FS | | FS | | | FS | | FS | FS |
| Put a plan to control and prevent infectious diseases that affect animals with special emphasis on infectious diseases of zoonotic importance. | | | FS | | | | FS | | | | | FS | FS |
| Induce anesthesia and conduct surgical procedures as required. | FS | FS | | | | FS | | | | | FS | | FS |
| Treat animals that suffer from obstetrical and gynecology diseases. | | | | FS | | | | FS | | | | | FS |
| Improve breeding of animals by artificial insemination and embryo transfer. | | | | FS | | | | FS | | | | | FS |
| Select a balanced ration from the conventional and non-conventional feedstuffs and analyze its constituents. | FS | | | | | | | | | | | FS | FS |
| Inspect meat and milk quality to be fit for human conception. | | | | | | | | | | | | FS | FS |

PROGRAM SPECIFICATION

Upon completion of the program, students will be able to:

REQUIRED COURSES:

| | VTMD411 | VTMD412 | VTMD413 | VTMD414 | VTMD415 | VTMD485Lab | VTMD511 | VTMD422 | VTMD423 | VTMD424 | VTMD512 | VTMD425 | VTMD444 |
|---|---------|---------|---------|---------|---------|------------|---------|---------|---------|---------|---------|---------|---------|
| SUBJECT-SPECIFIC INTELLECTUAL SKILLS | | | | | | | | | | | | | |
| Demonstrate the different modern laboratory techniques for isolation and identification of different microorganisms. | | FS | | | | FS | | | | | | FS | FS |
| Analyze the problems and their causes to reach the appropriate solution for them on scientific bases. | FS | | | | | | | | | | | FS | FS |
| Assess the quality of dairy products, meat, edible fats, oils and eggs and their suitability for human consumptions. | | | | | | | | | | | | FS | FS |
| Analyze the physiological data concerning the environmental variables and identify the different metabolic pathways inside the body. | FS | | | | FS | FS | | | | | | | FS |
| Evaluate the immune response by using recent specific and sensitive assays. | | | | | | | | | | | | FS | FS |
| Analyze infertility problems and overcome them. | | | | FS | | | | FS | | | | | FS |
| Correlate between the diseases and their etiologies to classify the different diseases in farm animals, birds and fish through using the diagnostic methods and to select suitable treatment and preventive measures. | | | FS | | | | FS | | | | | | FS |
| Demonstrate a practical ability to apply and analyze knowledge of biophysics, biology, organic and inorganic chemistry and computer. | | | | | | | | | | | | FS | FS |
| PROFESSIONAL AND PRACTICAL SKILLS | | | | | | | | | | | | | |
| Examine the different body organs of live animals. | | | | | | | | | | | | FS | FS |
| Examine different tissues among animals microscopically to identify them. | | | | | FS | FS | | | | | | | FS |
| Determine the various biochemical components of body fluids and identify different biochemical compounds in vitro. | | | | | | | | | | | FS | | FS |
| Apply laboratory tests dealing with physiological function tests. | | | | | FS | FS | | | | | | | FS |
| Practice, manipulate and restrain of farm and pet animals and poultry in a safe and humane manner. | | | | | | | FS | | | | | FS | FS |

PROGRAM SPECIFICATION

| Upon completion of the program, students will be able to: | REQUIRED COURSES: | | | | | | | | | | | | | |
|--|-------------------|---------|---------|---------|---------|------------|---------|---------|---------|---------|---------|---------|---------|----|
| | VTMD411 | VTMD412 | VTMD413 | VTMD414 | VTMD415 | VTMD485Lab | VTMD511 | VTMD422 | VTMD423 | VTMD424 | VTMD512 | VTMD425 | VTMD444 | |
| Apply pathological techniques to achieve a definite diagnosis in farm animals, birds and fishes. | | | | | FS | FS | | | | | | | | FS |
| Operate the control measures of parasitic infestation. | | | FS | | | | FS | | | | | | | FS |
| Investigate virus, viral antigen, viral antibodies, and viral nucleic acids in clinical samples. | | | FS | | | | FS | | | | | | | FS |
| Handle with the systemic, metabolic and nutritional deficiency diseases among farm, pet and zoo animals. | | | FS | | | | FS | | | | | FS | | FS |
| Acquire an experience in modern diagnostic tests and vaccinate the animals' infectious diseases. | | | FS | | | | FS | | | | | FS | | FS |
| Operate the aquaculture projects in addition to diagnose and treat the aquatic animal problems. | | | FS | | | | | | | | | | | FS |
| Apply the different diagnostic methods such as clinical and modern equipment devices to treat the infertility problems in both male and female animals. | | | | FS | | | | FS | | | | | | FS |
| Use the chemical restrains methods for surgical patient to use the available diagnostic tools (Radiology and sonar) and to perform some surgical operations in farm animals. | | | | | | | | | FS | FS | | | | FS |
| Prepare a therapy program, preventive and control agenda for poultry farms. | | | | | | | FS | | | | | | | FS |
| Examine the fitness of human food from animal origin for consumption and detect the biochemical residues in it. | | | | | | | FS | | | | | | | FS |
| Figure out the drug-drug interaction panorama in the veterinary field. | | | | FS | | | FS | | | | | | | FS |
| Operate the husbandry program, record and analyze production data. | | | | | | | | | | | | FS | | FS |
| GENERAL COMPETENCE (INCLUDING EMPLOYABILITY) | | | | | | | | | | | | | | |
| Communication | | | | | | | | | | | | | | |
| Recognize and value communication as a tool for negotiating and creating new understanding. | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS |

PROGRAM SPECIFICATION

| Upon completion of the program, students will be able to: | REQUIRED COURSES: | | | | | | | | | | | | |
|--|-------------------|---------|---------|---------|---------|------------|---------|---------|---------|---------|---------|---------|---------|
| | VTMD411 | VTMD412 | VTMD413 | VTMD414 | VTMD415 | VTMD485Lab | VTMD511 | VTMD422 | VTMD423 | VTMD424 | VTMD512 | VTMD425 | VTMD444 |
| Interact with others, and furthering their own learning. | S | S | S | S | S | S | S | S | S | S | S | S | FS |
| Acknowledge differences and able to adapt to difference of opinions while being open minded | S | S | S | S | S | S | S | S | S | S | S | S | FS |
| Exercise assertiveness while accepting feedback at the same time. | | | | | | S | | | | | | | FS |
| Provide specific details supported by scientific data and publication. | S | S | S | S | S | S | S | S | S | S | S | S | FS |
| Demonstrate good oral and written communication skills with animal owners, colleagues, team members, and the general public. | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS |
| Teamwork and interpersonal skills | | | | | | | | | | | | | FS |
| Perform live projects as a team and contribute to strengthen each other's weaknesses | | | | | | FS | | | | | | | FS |
| Take responsibility and claiming ownership for their responsibility while working in a team. | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS |
| Cooperate and listen to team members. | | | | | | FS | | | | | | | FS |
| Information literacy and study skills | | | | | | | | | | | | | |
| Recognize need for information and distinguish ways of addressing gap and select appropriate sources. | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS |
| Locate strategically and access information to construct research strategies. | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS |
| Compare and evaluate information. | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS |
| Synthesize and create missing information. | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS |
| Apply current literature review to medical cases. | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS |
| Numeracy | | | | | | | | | | | | | |
| Demonstrate good sampling and minimize technical errors. | | | | | | FS | | | | | | | FS |

PROGRAM SPECIFICATION

| Upon completion of the program, students will be able to: | REQUIRED COURSES: | | | | | | | | | | | | |
|---|-------------------|---------|---------|---------|---------|------------|---------|---------|---------|---------|---------|---------|---------|
| | VTMD411 | VTMD412 | VTMD413 | VTMD414 | VTMD415 | VTMD485Lab | VTMD511 | VTMD422 | VTMD423 | VTMD424 | VTMD512 | VTMD425 | VTMD444 |
| Appreciate issues of sample selection, accuracy, precision and uncertainty during collection, recording and analysis of data in the field and laboratory. | | | | | | FS | | | | | | | FS |
| Calculate chromosome number and karyotyping of different species . | | | | | | | | FS | | | | FS | FS |
| Prepare process, interpret and present data using appropriate qualitative and quantitative techniques and software packages. | | | | | | FS | | | | | | FS | FS |
| Prepare the ration formulation for different animals, birds and fish according to their requirements. | | | | | | | FS | | | | | | FS |
| Leadership and entrepreneurship | | | | | | | | | | | | | |
| Develop good problem solving and decision making abilities. | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS |
| Evaluate and assess market needs for new veterinary developments. | | | | | | | | | | | | | FS |
| Lead clinical trials for veterinary cases. | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS |
| Assess animal production enterprises and their economic problems to achieve maximal profits. | | | FS | | | | FS | | | | | | FS |
| Recognize the role of scientific research in the advancement of medical knowledge. | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS | FS |

PROGRAM SPECIFICATION

12. MAPPING of ASSESSMENT of LEARNING OUTCOMES YEAR 5

Required Courses:

KEY: F = Formative assessment S = Summative assessment FS = Formative AND Summative assessment

| Upon completion of the program, students will be able to: | REQUIRED COURSES: | | | | | | | | | |
|--|-------------------|---------|---------|------------|---------|---------|---------|---------|---------|--------------|
| | MSAF421 | VTMD513 | VTMD514 | VTMD584Lab | VTMD515 | VTMD522 | VTMD524 | VTMD525 | VTMD526 | M.ELECTIVE 2 |
| KNOWLEDGE AND UNDERSTANDING | | | | | | | | | | |
| Administer and prescribe medications and treatments to animals. | FS | FS | | | FS | FS | | | FS | FS |
| Apply medical and surgical procedures to animals. | | | | | FS | FS | | | FS | FS |
| Advise clients about the care of animals. | | | | | FS | | | FS | FS | |
| Assist with treating and caring for animals. | | | | | FS | | | FS | FS | |
| Diagnose and treat animals as a result of evaluating and interpreting clinical observations and tests. | FS | | | | FS | | | | FS | |
| Observe, monitor and report changes in an animal's condition. | FS | | | | FS | | | | FS | FS |
| Put a plan to control and prevent infectious diseases that affect animals with special emphasis on infectious diseases of zoonotic importance. | FS | | | | FS | | | | FS | |
| Induce anesthesia and conduct surgical procedures as required. | | | | | FS | | | | FS | |
| Treat animals that suffer from obstetrical and gynecology diseases. | | | | | FS | | | | FS | |
| Improve breeding of animals by artificial insemination and embryo transfer. | | | | | FS | | | | FS | |
| Select a balanced ration from the conventional and non-conventional feedstuffs and analyze its constituents. | | | | | FS | | | | FS | |
| Inspect meat and milk quality to be fit for human conception. | | | FS | FS | | | | | | |
| SUBJECT-SPECIFIC INTELLECTUAL SKILLS | | | | | | | | | | |

PROGRAM SPECIFICATION

Upon completion of the program, students will be able to:

REQUIRED COURSES:

| | MSAF421 | VTMD513 | VTMD514 | VTMD584Lab | VTMD515 | VTMD522 | VTMD524 | VTMD525 | VTMD526 | M.ELECTIVE 2 |
|---|---------|---------|---------|------------|---------|---------|---------|---------|---------|--------------|
| Demonstrate the different modern laboratory techniques for isolation and identification of different microorganisms. | | FS | | | | | | | | |
| Analyze the problems and their causes to reach the appropriate solution for them on scientific bases. | | | | | | | FS | | | |
| Assess the quality of dairy products, meat, edible fats, oils and eggs and their suitability for human consumptions. | | | FS | FS | | | | | | |
| Analyze the physiological data concerning the environmental variables and identify the different metabolic pathways inside the body. | | | | | | FS | | | | |
| Evaluate the immune response by using recent specific and sensitive assays. | | | | | FS | | | | FS | |
| Analyze infertility problems and overcome them. | | | | | FS | | | | FS | |
| Correlate between the diseases and their etiologies to classify the different diseases in farm animals, birds and fish through using the diagnostic methods and to select suitable treatment and preventive measures. | FS | FS | | | | | | | | |
| Demonstrate a practical ability to apply and analyze knowledge of biophysics, biology, organic and inorganic chemistry and computer. | | | | | FS | | | | FS | FS |
| PROFESSIONAL AND PRACTICAL SKILLS | | | | | | | | | | |
| Examine the different body organs of live animals. | | | | | FS | | | | FS | |
| Examine different tissues among animals microscopically to identify them. | | | | | FS | FS | | | FS | |
| Determine the various biochemical components of body fluids and identify different biochemical compounds in vitro. | | | | | | FS | | | | |
| Apply laboratory tests dealing with physiological function tests. | | | | | FS | | | | FS | |
| Practice, manipulate and restrain of farm and pet animals and poultry in a safe and humane manner. | | | | | FS | | | | FS | |
| Apply pathological techniques to achieve a definite diagnosis in farm animals, birds and fishes. | FS | | | | FS | | | | FS | |

PROGRAM SPECIFICATION

Upon completion of the program, students will be able to:

REQUIRED COURSES:

| | MSAF421 | VTMD513 | VTMD514 | VTMD584Lab | VTMD515 | VTMD522 | VTMD524 | VTMD525 | VTMD526 | M.ELECTIVE 2 |
|--|---------|---------|---------|------------|---------|---------|---------|---------|---------|--------------|
| Operate the control measures of parasitic infestation. | | FS | | | | | | | | |
| Investigate virus, viral antigen, viral antibodies, and viral nucleic acids in clinical samples. | | FS | | | FS | | | | FS | |
| Handle with the systemic, metabolic and nutritional deficiency diseases among farm, pet and zoo animals. | | FS | | | | | | | | |
| Acquire an experience in modern diagnostic tests and vaccinate the animals' infectious diseases. | | FS | | | | | | FS | | |
| Operate the aquaculture projects in addition to diagnose and treat the aquatic animal problems. | FS | | | | | | | | | |
| Apply the different diagnostic methods such as clinical and modern equipment devices to treat the infertility problems in both male and female animals. | | | | | FS | | | | FS | |
| Use the chemical restrains methods for surgical patient to use the available diagnostic tools (Radiology and sonar) and to perform some surgical operations in farm animals. | | | | | FS | | | | FS | |
| Prepare a therapy program, preventive and control agenda for poultry farms. | | | | | FS | | | | FS | |
| Examine the fitness of human food from animal origin for consumption and detect the biochemical residues in it. | | | FS | FS | | | | | | |
| Figure out the drug-drug interaction panorama in the veterinary field. | | | | | | FS | | | | |
| Operate the husbandry program, record and analyze production data. | | | | | FS | | | | FS | |
| GENERAL COMPETENCE (INCLUDING EMPLOYABILITY) | | | | | | | | | | |
| Communication | | | | | | | | | | |
| Recognize and value communication as a tool for negotiating and creating new understanding. | | | | | FS | | | | FS | |
| Interact with others, and furthering their own learning. | | | | | FS | | | | FS | |
| Acknowledge differences and able to adapt to difference of opinions while being open minded | | | | FS | FS | | | | FS | |

PROGRAM SPECIFICATION

Upon completion of the program, students will be able to:

REQUIRED COURSES:

| | MSAF421 | VTMD513 | VTMD514 | VTMD584Lab | VTMD515 | VTMD522 | VTMD524 | VTMD525 | VTMD526 | M.ELECTIVE 2 |
|---|---------|---------|---------|------------|---------|---------|---------|---------|---------|--------------|
| Exercise assertiveness while accepting feedback at the same time. | | | | | FS | | | | FS | |
| Provide specific details supported by scientific data and publication. | | | | | FS | FS | | | FS | |
| Demonstrate good oral and written communication skills with animal owners, colleagues, team members, and the general public. | | | | | FS | | | | FS | |
| Teamwork and interpersonal skills | | | | | | | | | | |
| Perform live projects as a team and contribute to strengthen each other's weaknesses | | | | | FS | | | | FS | |
| Take responsibility and claiming ownership for their responsibility while working in a team. | | | | | FS | | | | FS | |
| Cooperate and listen to team members. | | | | | FS | | | | FS | |
| Information literacy and study skills | | | | | | | | | | |
| Recognize need for information and distinguish ways of addressing gap and select appropriate sources. | | | | | | | FS | | | |
| Locate strategically and access information to construct research strategies. | | | | | | | FS | | | |
| Compare and evaluate information. | | | | | | | FS | | | |
| Synthesize and create missing information. | | | | | | | FS | | | |
| Apply current literature review to medical cases. | | | | | | | FS | | | |
| Numeracy | | | | | | | | | | |
| Demonstrate good sampling and minimize technical errors. | | FS | | | | | | | | |
| Appreciate issues of sample selection, accuracy, precision and uncertainty during collection, recording and analysis of data in the field and laboratory. | | FS | | | | | | | | |
| Calculate chromosome number and karyotyping of different species. | | | | | FS | | | | FS | |

PROGRAM SPECIFICATION

Upon completion of the program, students will be able to:

REQUIRED COURSES:

| | MSAF421 | VTMD513 | VTMD514 | VTMD584Lab | VTMD515 | VTMD522 | VTMD524 | VTMD525 | VTMD526 | M.ELECTIVE 2 |
|--|---------|---------|---------|------------|---------|---------|---------|---------|---------|--------------|
| Prepare process, interpret and present data using appropriate qualitative and quantitative techniques and software packages. | | | | | FS | | | | FS | |
| Prepare the ration formulation for different animals, birds and fish according to their requirements. | | | | | FS | | | | FS | |
| Leadership and entrepreneurship | | | | | | | | | | |
| Develop good problem solving and decision making abilities. | | | | | FS | | | | FS | |
| Evaluate and assess market needs for new veterinary developments. | | | | | FS | | | | FS | |
| Lead clinical trials for veterinary cases. | | | | | FS | | | | FS | |
| Assess animal production enterprises and their economic problems to achieve maximal profits. | | | FS | FS | | | | | | |
| Recognize the role of scientific research in the advancement of medical knowledge. | | | | | | | FS | | | |