Study Plan

The following tables explain the courses to be studied in the different study groups, theoretical and practical hours, the maximum end, and the distribution of grades for each course.

Table (1): First Class - First Semester

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Name** | **Weekly hours** | | **exam grades** | | | | | | | **Classroom work10 %** | |  |
| **Written** | **practical** | **Great end** | | **Written** | **practical test** | | **oral** | |  |
| **ANE:1101** | **General Anatomy and Embryology** | **2** | **3** | | **100** | **50** | **20** | | **20** | | **10** | |  |
| **HIS:1105** | **General Histology** | **2** | **2** | | **100** | **50** | **20** | | **20** | | **10** | |  |
| **BIO:1169** | **Biology** | **2** | **2** | | **100** | **50** | **40** | | **-** | | **10** | |  |
| **BPHS:1170** | **Biophysics** | **2** | **2** | | **100** | **50** | **40** | | **-** | | **10** | |  |
| **CHM:1171** | **General Chemistry** | **2** | **2** | | **100** | **50** | **40** | | **-** | | **10** | |  |
| **VMT:1172** | **Basics of Veterinary Medical Terminology** | **2** | **-** | | **100** | **50** | | **-** | | **-** | | **10** | |
| **COM:1173** | **Computer   (Applied uses)** | **1** | **2** | | **100** | **50** | **40** | | **-** | | **10** | |  |
| **total** |  | **13** | **13** |  | | | | | | | | |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |

\* Courses are not counted within the total of the group or the cumulative total and are not counted within the courses of repetition of the band and requires the success of the student before graduation.

Table (2): First Class - Second Semester

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Name** | | **Weekly hours** | | **exam grades** | | | | **Classroom work10 %**  **Written** |
| **Written** | **practical** | **Great end** | **Written** | **practical** | **Great end** |
| **ANE:1202** |  | **Special Anatomy and Embryology** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **HIS:1206** | **Special  Histology** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **BIC:1207** | **Basics of Biochemistry** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **PHY:1211** | **General Physiology** | **2** | **3** | **100** | **50** | **20** | **20** | **10** |
| **BMAW:1214** | **Genetics And Genetic Engineering** | **2** | **2** | **100** | **50** | **40** | **-** | **10** |
| **BMAW:1215** | **Economics and Veterinary Projects Administration** | **2** | **2** | **100** | **50** | **40** | **-** | **10** |
| **BMAW:1216** | **Statistics, experimental  design and analysis** | **1** | **1** | **100** | **50** | **40** | **-** | **10** |
|  |  |  |  |  |  |  |  |  |  |
| **total** |  | | **13** | **14** |  | | | | |

**Table (1): second Class - first Semester**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Name** | | **Weekly hours** | | **exam grades** | | | | **Classroom work10 %**  **Written** |
| **Written** | **practical** |  |  | **Written** | **practical** |
| **ANE:2103** |  | **Comparative Anatomy** | **2** | **3** | **100** | **50** | **20** | **20** | **10** |
| **BIC:2108** | **Biochemistry of Metabolism** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **PHY:2112** | **Sysremic Physiology** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **BMAW:2117** | **Animal & Poultry Behavior and  Management (part I)** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **BMAW:2119** | **Animal, Poultry and Fish Production   (Part I)** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **BMAW:2121** | **Animal  Welfare and Rights** | **1** | **1** | **100** | **50** | **40** | **-** | **10** |
| **total** |  | | **11** | **12** |  | | | | |

**Table (2): second Class - Second Semester**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Name** | | **Weekly hours** | | **exam grades** | | | | **Classroom work10%**  **Written** |
| **Written** | **practical** |  |  | **Written** | **practical** |
| **ANE:2204** |  | **Applied Anatomy** | **2** | **3** | **100** | **50** | **20** | **20** | **10** |
| **BIC:2209** | **Special Biochemistry and Body Fluids** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **PHY:2213** | **Special and Comparative  Physiology** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **BMAW:2218** | **Animal & Poultry Behavior and  Management (part II)** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **BMAW:2220** | **Animal, Poultry and Fish Production (Part II)** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **BIC:2210** | **Basics of Molecular Biology** | **1** | **2** | **100** | **50** | **20** | **20** | **10** |
| **EVSR:2274** | **Ethics of Veterinary Practice and Scientific Research** | **2** | **-** | **100** | **90** | **-** | **-** | **10** |
| **total** |  | | **13** | **13** |  | | | | |

\* Courses are not counted within the total of the group or the cumulative total and are not counted within the courses of repetition of the band and requires the success of the student before graduation.

Table (5): Third Division - First Semester

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Name** | | **Weekly hours** | | **exam grades** | | | | **Classroom work10 %**  **Written** |
| **Written** | **practical** |  |  | **Written** | **practical** |
| **PCP:3122** |  | **General Pathology** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **MIC:3127** | **General Bacteriology & Mycology and Immunology** | **2** | **3** | **100** | **50** | **20** | **20** | **10** |
| **PAR:3130** | **Parasitology (Helminths)** | **3** | **2** | **100** | **50** | **20** | **20** | **10** |
| **PHA:3132** | **Pharmacology (part I)** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **NCN:3134** | **Basics of Nutrition** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **MIC:3129** | **Virology** | **2** | **3** | **100** | **50** | **20** | **20** | **10** |
| **total** |  | | **13** | **14** |  | | | | |

Table (6): Third Division - Second Semester

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Name** | | **Weekly hours** | | **exam grades** | | | | **Classroom work10%**  **Written** |
| **Written** | **practical** |  |  | **Written** | **practical** |
| **PCP:3223** |  | **Systemic Pathology** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **MIC:3228** | **Special Bacteriology and Mycology** | **2** | **3** | **100** | **50** | **20** | **20** | **10** |
| **PAR:3231** | **Parasitology (protozoa & arthropods)** | **3** | **2** | **100** | **50** | **20** | **20** | **10** |
| **PHA:3233** | **Pharmacology (part II)** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **NCN:3235** | **Special Nutrition** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **SAR:3248** | **Anaesthesiology**  **& ophthalmology** | **3** | **3** | **100** | **50** | **20** | **20** | **10** |
| **HZE:3236** | **Principles of Epidemiology** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **total** |  | | **16** | **16** |  | | | | |

Table (7): Fourth Year - First Semester

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Name** | | **Weekly hours** | | **exam grades** | | | | **Classroom work10 %**  **Written** |
| **Written** | **practical** |  |  | **Written** | **practical** |
| **PCP:4124** |  | **Specific Pathology (Part I)** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **ANM:4141** | **Internal Medicine Part I))** | **2** | **3** | **100** | **50** | **20** | **20** | **10** |
| **SAR:4149** | **General Surgery** | **2** | **3** | **100** | **50** | **20** | **20** | **10** |
| **THR:4154** | **Andrology** | **2** | **3** | **100** | **50** | **20** | **20** | **10** |
| **TFM:4159** | **Forensic Medicine** | **2** | **3** | **100** | **50** | **20** | **20** | **10** |
| **FST:4161** | **Milk safety and Technology** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **PCP:4126** | **Clinical Pathology** | **2** | **3** | **100** | **50** | **20** | **20** | **10** |
| **PFD:4165** | **Fish diseases and Management (Part I)** | **2** | **2** |  |  |  |  |  |
| **total** |  | | **16** | **21** |  | | | | |

Table (8): Fourth Year - Second Semester

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Name** | | **Weekly hours** | | **exam grades** | | | | **Classroom work10%**  **Written** |
| **Written** | **practical** |  |  | **Written** | **practical** |
| **PCP:4225** |  | **Specific Pathology (Part I)I** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **ANM:4242** | **Internal Medicine             (Part II)** | **2** | **3** | **100** | **50** | **20** | **20** | **10** |
| **SAR:4250** | **Radiology & Surgery of limbs** | **2** | **3** | **100** | **50** | **20** | **20** | **10** |
| **THR:4255** | **Gynecology** | **2** | **4** | **100** | **50** | **20** | **20** | **10** |
| **TFM:4260** | **Toxicology** | **2** | **3** | **100** | **50** | **20** | **20** | **10** |
| **FST:4262** | **Milk Products , Eggs and Fat Safety and Technology** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **PFD:4266** | **Fish Diseases and management (Part II)** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **ANM:4245** | **Field studies in Internal Medicine** | **-** | **4** | **100** | **30** | **40** | **20** | **10** |
| **total** |  | | **14** | **23** |  | | | | |

Table (9): Fifth Division - First Semester

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Name** | | **Weekly hours** | | **exam grades** | | | | **Classroom work10%**  **Written** |  |
| **Written** | **practical** |  |  | **Written** | **practical** |  |
| **HZE:5137** |  | **Environmental Hygiene** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |  |
| **ANM:5143** | **Internal Medicine (Part III)** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |  |
| **SAR:5151** | **Special and experimental  Surgery** | **3** | **3** | **100** | **50** | **20** | **20** | **10** |  |
| **THR:5156** | **Obstetrics** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |  |
| **FST:5163** | **Meat, poultry and fish Safety and Technology** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |  |
| **PFD:5167** | **Poultry Diseases (Part I)** | **2** | **3** | **100** | **50** | **20** | **20** | **10** |  |
| **ANM:5146** | **Infectious Diseases (Part I)** | **2** | **3** | **100** | **50** | **20** | **20** | **10** |  |
| **HZE:5139** | **Zoonoses (Part I)** | **2** | **1** | **100** | **50** | **20** | **20** | **10** |  |
| **SAR: 5152** | **Field studies in Animal Surgery** | **-** | **2** | **100** | **30** | **40** | **20** | **10** |  |
| **total** |  | | **17** | **20** |  | | | | |  |

**Table (10): Fifth Division - Second Semester**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Name** | | **Weekly hours** | | **exam grades** | | | | **Classroom work10%**  **Written** |
| **Written** | **practical** |  |  | **Written** | **practical** |
| **HZE:5238** |  | **Animal Hygiene and Preventive Medicine** | **3** | **2** | **100** | **50** | **20** | **20** | **10** |
| **ANM:5244** | **Internal Medicine (Part IV)** | **2** | **3** | **100** | **50** | **20** | **20** | **10** |
| **THR:5257** | **Artificial Insemination,    In Vitro Fertilization and Embryo Transfer** | **2** | **3** | **100** | **50** | **20** | **20** | **10** |
| **FST:5264** | **Meat, poultry and fish Products Safety and Technology** | **2** | **2** | **100** | **50** | **20** | **20** | **10** |
| **PFD:5268** | **Poultry Diseases (Part II)** | **2** | **3** | **100** | **50** | **20** | **20** | **10** |
| **ANM:5247** | **Infectious Diseases (Part II)** | **2** | **3** | **100** | **50** | **20** | **20** | **10** |
| **HZE:5240** | **Zoonoses (Part II)** | **2** | **1** | **100** | **50** | **20** | **20** | **10** |
| **SAR: 5253** | **Veterinary Endoscopy** | **1** | **2** | **100** | **50** | **20** | **20** | **10** |
| **THR:5258** | **Field studies in gynecology and obstetrics** | **-** | **4** | **100** | **30** | **40** | **20** | **10** |
| **total** |  | | **16** | **23** |  | | | | |

Correction system:

**The evaluation system shall be based on the grade in each course according to the following schedule for all courses:**

|  |
| --- |
| **From 85% or more excellent**  **From 75% to less than 85% very good**  **From 65% to less than 75% good**  **From 50% to less than 65% acceptable**  **From 30% to less than 50% weak**  **Less than 30% or a very weak printout** |

**2- The student's success in the course requires that he obtain at least 30% of the degree allocated for both the written and practical examination of the course.**

**1- The general grade of the bachelor's degree shall be calculated on the basis of the total number of grades obtained by the student in all the basic courses in the five study groups in relation to the total of the great endings of these courses. The general assessment of the student in the bachelor's degree is according to the following schedule:**

**3.The student shall be granted the rank of honor in accordance with the rules stipulated in the Law of Organizing Universities.**

Examinations and transfer of the top teams:

1. Each course that completes the exam at the end of the first or second semester of all the study groups is considered a separate course.

2 - The role of the exam at the end of each semester, and transfer the student from the restricted band to the Higher Division if successful in all the basic courses that he studied in the two semesters.

The second role exam (the role of September) is held for each class of students who fail in no more than four basic courses. The student is transferred to the next class if he succeeds in all the basic courses of the restricted team. If he is absent in one or more of the basic courses in the role In September, the student is considered to be returning.

3. The student must follow the lectures and practical lessons regularly. The College Council, upon the request of the relevant departmental councils, shall be prohibited from applying for the practical examination of the course if his absence exceeds 25% of the total hours of the course. The absence of 20% and upon arrival to 25%), and the student is considered a rapporteur in the course, who was denied to take the exam in it unless he submitted an excuse accepted by the College Council. In this case, the student is denied entry to the examination, and he is considered absent with an acceptable excuse.

4- The duration of the written examination is two hours in all courses.

5 - Distribution of the exam scores in each course according to the tables (1-10) in Article (7) of this list.

**Article (10): Laboratory and clinical training:**

**The period of training:**

**Students must spend (18 weeks) training 40 hours per week with a total of 720 hours, distributed as follows:**

1. **Four weeks (160 hours) after the second year exam.**
2. **Four weeks (160 hours) after the third year exam**
3. **Four weeks (160 hours) after the fourth exam**
4. **2. Four weeks (160 hours) after the fifth exam**
5. **5- Two weeks (80 hours) therapeutic convoys by one week (40 hours) during vacation of half of the academic year for the fourth and fifth year.**

**Training places:**

**Training is carried out by the scientific departments, farms and specialized units of the University,** **As well as therapeutic convoys, and in veterinary research institutes,** **and animal production farms** **Poultry, fish and veterinary hospitals** **and Health control laboratories for food and general health in the concerned authorities, pharmaceutical factories, feed factories, veterinary units or similar units,** **And other places of interest in livestock, and the periods of training under the supervision of the members of the faculty and their assistants and specialists by 8 hours a day (five days a week)** **, And the College Council determines the rules for the distribution of students on different training venues, and grants The student shall not transfer from the actual days he attended during the training periods. The College Council shall determine the value of this allowance annually.**

**Training Programs**

**The College Council shall adopt the training program based on the suggestions of the departments, at least one month before the start of the training.** **Each section provides a description of its training programs.** **The training programs are held within the basic requirements that the student must pass before obtaining a bachelor's degree.**

**Pass the training:**

**The student must successfully pass the following training:**

**1 - Attendance of the training attendance at a rate of not less than 75% of the actual training days for each training course in each period, otherwise it is prohibited to apply for applied and practical examinations for training for this period.** **2 - Successful student in the applied and practical examinations for training conducted by each department in accordance with the rules determined by the College Council.** **The evaluation of the student in the different training periods is one of the following estimates:**

**From 60 to less than 70%:  acceptable**

**From 70% to less than 80%:  Good**

**From 80% to less than 90%:  Very good**

**90% or more:  Excellent**

**The general assessment of the training is the average of the student's achievement in the different training periods during the 18 weeks; provided that this is recorded in the certificate of graduation and the training rates are not counted in the total student.**

**Retraining:**

**A student who has not completed one of the training periods for any course on time has to retrain the course according to the rules determined by the College Council, while the student is denied the transfer allowance during the periods of return.**

**General rules**

1. **The student shall be subject to the general rules of the university and the college.** **The rules of separation are apply from the university Re-enrollment opportunities and acceptable excuses for missing the exam** **And the suspension of enrollment and all rules and laws** **and the special regulations on student discipline provided for in the Law on Organizing Universities and its Executive Regulations.**
2. **- A monetary remuneration shall be paid to faculty members and their assistants for participation in oral and applied examinations (practical) as well as laboratory and clinical training (provided for in Article 10) in accordance with the prescribed rules.**
3. **The provisions of the Law on Organizing Universities and its Executive Regulations shall apply, unless any provision is made in these Regulations.**

**Course contents**

**Anatomy (ANE):**

**A) General Anatomy and embryology (ANE:1101):**

**1- General Osteology.**

**2- General Arthrology.**

**3- General Embryology.**

**4- Fowl and Rabbit Anatomy.**

**5- Fish Anatomy.**

**B) Special Anatomy and Embryology (ANE:1202):**

**1- Respiratory System.**

**2- Cardiovascular System.**

**3- Special Arthrology.**

**C) Comparative Anatomy (ANE:2103):**

**1. Comparative Anatomy of the Digestive System.**

**2. Comparative Anatomy of the Urinary System.**

**3. Comparative Anatomy of the Genital System.**

**4. Development of the Digestive & Respiratory Systems.**

**5. Development of the Urogenital System.**

**D) Applied Anatomy (ANE:2204):**

**1- Blood Supply of Head and Neck.**

**2- Eye Anatomy.**

**3- Lymphatic System.**

**4- Nervous System.**

**5- Applied Anatomy.**

**Histology (HIS):**

**A) General Histology (HIS: 1105):**

**1- Introduction & Histological Terminology.**

**2- Cytology.**

**3- Epithelial Tissue.**

**4- Connective Tissue.**

**5- Blood.**

**6- Muscular tissue.**

**7- Nervous tissue.**

**B) Special Histology (HIS:1206):**

**1- Lymphatic System and Immunity.**

**2- Nervous System.**

**3- Respiratory System.**

**4- Urinary System.**

**5- Male and Female Genital System.**

**6- Digestive System.**

**7- Endocrine System.**

**8- Cardiovascular System.**

**9- Skin and Mammary Gland.**

**10- Sense Organs.**

**11- Poultry Histology: Respiratory, Urogenital, Digestive, Cardiovascular and Lymphatic Systems.**

**12- Fish Histology: Respiratory, Urogenital, Digestive, Cardiovascular, Lymphatic and nervous Systems.**

**Biochemistry (BIC):**

**A) Basics of Biochemistry (BIC:1207):**

**1- Introduction to Biochemistry.**

**2- Chemistry of carbohydrates.**

**3- Chemistry of Lipids.**

**4- Chemistry Proteins.**

**5- Chemistry of Nucleotide and Nucleic Acid.**

**6- Enzymes.**

**7- Vitamins.**

**B) Biochemistry of Metabolism (BIC:2108):**

**1- Introduction to Metabolism.**

**2- Bioenergetics.**

**3- Metabolism of Carbohydrates.**

**4- Metabolism of Lipids.**

**5- Metabolism of Proteins.**

**6- Metabolism of Purines and Pyrimidines.**

**7- Integration.**

**8- Mineral Metabolism.**

**C) Special Biochemistry and Body Fluids (BIC:2209):**

**1- Acid-base balance.**

**2- Disorders of carbohydrate metabolism.**

**3- Disorders of lipid metabolism.**

**4- Disorders of protein metabolism.**

**5- Haeme metabolism.**

**6- Body fluids (milk, urine), haemostasis, semin.**

**7- Kidney function.**

**8- Liver function.**

**9- Pancreatic function.**

**10- Clinical enzymology.**

**D) Basics of Molecular Biology (BIC: 2210):**

**1- Structure of nucleoproteins (including genetic material organization in prokaryotes and eukaryotes).**

**2- Structure of nucleic acids (DNA and RNA).**

**3- DNA replication “in prokaryotes and eukaryotes”.**

**4- DNA repair.**

**5- DNA mutation and genetic code.**

**6- Gene expression “Transcription in prokaryotes and eukaryotes”**

**7- Protein biosynthesis (Translation in prokaryotes and eukaryotes).**

**8- Gene regulations “in prokaryotes and eukaryotes”.**

**9- Molecular Cloning (including cloning vectors and DNA manipulating enzymes such as restriction endonucleases and DNA ligase).**

**10- PCR and its applications.**

**11- Bioinformatics.**

**Physiology (PHY):**

**A) General Physiology (PHY:1211):**

**1- Cell physiology.**

**2- Blood and body fluids:**

**- General properties and functions of blood.**

**- Red blood cell.**

**- White blood cell.**

**- Blood platelets and coagulation.**

**- Plasma proteins.**

**- Lymph and other body fluids.**

**3- Nervous system:**

**- Central nervous system.**

**- Special sense.**

**- Autonomic nervous system.**

**4- Muscle and nerve.**

**B) Systemic Physiology (PHY:2112):**

**1- Skin.**

**2- Respiratory system.**

**3- Cardiovascular system.**

**4- Digestive system and metabolism.**

**5- Urinary system.**

**C) Special and Comparative Physiology (PHY:2213):**

**1- Endocrinology.**

**2- Male reproduction.**

**3- Female reproduction.**

**4- Fish physiology.**

**5- Avian physiology.**

**Genetics and Genetic Engineering (BMAW:1214):**

**1- Introduction of genetics and evolution.**

**2- The genetic material.**

**3- Structural organization of the genetic material in the chromosomes.**

**4- Sources of variation in organisms.**

**5- Functions of genetic material.**

**6- Gene expression.**

**7- Extra-chromosomal inheritance.**

**8- Differentiation and development.**

**9- Genetic engineering.**

**10- Tissue culture and gene transfer in plant.**

**Economics and veterinary projects administration (BMAW:1215):**

**1- General concepts in the economy of animal production.**

**2- Marketing.**

**3- Veterinary investment.**

**4- Maximizing profitability of animal production.**

**5- Veterinary economic issues.**

**6- Financing means.**

**7- Feasibility study of veterinary projects.**

**8- Administration of veterinary projects.**

**Statistics, experimental design and analysis (BMAW:1216):**

**1- Elements of probability, random, variables-mathematical expectation.**

**2- Binomial, Poisson, hypergeometric distributions.**

**3- Normal distribution and normal approximation to the binomial.**

**4- Samples and populations and sampling distribution of some statistics.**

**5- Point and interval estimations.**

**6- Confidence interval for population mean, difference between two means and variance and proportion.**

**7- Tests of hypotheses and tests concerning means, difference between two means and variance.**

**8- Goodness of fit test and contingency tables.**

**Animal & Poultry Behaviour and Management (BMAW):**

**A) Animal & Poultry Behaviour and Management, Part I (BMAW:2117):**

**1- General behavior.**

**2- Management and behavior of equines.**

**3- Management and behavior of cattle.**

**4- Management and behavior of sheep and goat.**

**B) Animal & Poultry Behaviour and Management, Part II (BMAW:2218):**

**1- Management and behavior of poultry.**

**2- Management and behavior of laboratory animals.**

**3- Management and behavior of camel.**

**4- Management and behavior of dogs.**

**5- Management and behavior of cats.**

**Animal, Poultry and fish Production (BMAW):**

**A) Animal, Poultry and fish Production, Part I (BMAW:2219):**

**1- General principles of animal breeding.**

**2- Poultry breeding and production.**

**3- Rabbit breeding and production.**

**4- Fish breeding and production.**

**B) Animal, Poultry and fish Production, Part II (BMAW: 2220):**

**1- Dairy cattle breeding and production.**

**2- Beef cattle breeding and production.**

**3- Sheep and goat breeding and production.**

**4- Equine breeding and production.**

**Animal Welfare and Rights (BMAW:2121):**

**1- Concept of animal welfare.**

**2- Concept of animal rights.**

**3- Welfare terminology.**

**4- Welfare legislations.**

**5- Cattle welfare problems.**

**6- Sheep welfare problems.**

**7- Horse welfare problems.**

**8- Pet animal welfare problems.**

**9- Poultry welfare problems.**

**10- Laboratory animal welfare problems.**

**Pathology (PCP):**

**A) General Pathology (PCP: 3122):**

**1- Introduction to general pathology.**

**2- Disturbances in cell metabolism.**

**3- Necrosis, apoptosis and gangrene.**

**4- Disturbances in circulation.**

**5- Inflammation.**

**6- Healing and repair.**

**7- Disturbances in cell growth.**

**8- Tumours.**

**B) Systemic Pathology (PCP: 3223):**

**1- Digestive system.**

**2- Respiratory system.**

**3- Cardiovascular system.**

**4- Nervous system.**

**5- Urinary system.**

**6- Male genital system.**

**7- Female genital system.**

**8- Lymphoreticular system.**

**C) Specific Pathology Part I (PCP: 4124):**

**1- Postmortem examination.**

**2- Viral diseases of ruminants.**

**3- Viral diseases of equine.**

**4- Viral diseases of pets.**

**5- Viral diseases of poultry and fish.**

**D) Specific Pathology Part II (PCP: 4225):**

**1- Pathology of bacterial diseases.**

**2- Pathology of parasitic and mycotic diseases.**

**Clinical Pathology (PCP:4126):**

**1- Hematopoiesis.**

**2- Erythropoiesis and hemoglobin synthesis.**

**3- Different types of anemia.**

**4- Leukocytic response to disease.**

**5- Coagulopathies.**

**6- Clinical enzymology.**

**7- Serum Bilirubin.**

**8- Renal function test.**

**9- Pancreatic function test.**

**10- Abnormalities in mineral metabolism.**

**11-Abnormalities in lipid metabolism.**

**12-Disturbance in electrolytes.**

**Bacteriology, Mycology and Immunology (MIC):**

**A) General Bacteriology & Mycology and Immunity (MIC: 3127):**

**1- General Bacteriology:**

**- Classification and morphology of bacteria.**

**- Bacterial anatomy.**

**- Bacterial reproduction and metabolism.**

**- Bacterial growth cycle.**

**- Bacterial variation and dissociation.**

**- Relationship of bacteria to the host and environment.**

**- Bacterial products.**

**- Bacterial infection and virulence.**

**- Koch's postulates and their exceptions.**

**2- Bacterial genetics.**

**3- General Mycology:**

**- Structure of fungal cell and fungal colony.**

**- Fungal reproduction.**

**- Fungal growth and fungal products.**

**- Classification of fungi.**

**- Identification of fungi.**

**4- Immunology:**

**- Tissues, organs and cells of the immune system.**

**- Types and mechanisms of immunity.**

**- Antigen and immunogenicity.**

**- Immunoglobulins.**

**- Cells cooperation for humeral and cell mediated immunity.**

**- Adjuvants.**

**- Hypersensitivity.**

**- Immunostimulants and immunosuppression.**

**B) Special Bacteriology and Mycology (MIC:3228):**

**1- Systematic Bacteriology:**

**- Staphylococci.**

**- Streptococci.**

**- Listeria.**

**- F. Bacillacceae.**

**- G. Clostridium.**

**- Cotynebacteria.**

**- Mycobacterium.**

**- Enterobacteriaceae.**

**- Pasreurella.**

**- Brucella.**

**- Pseudomonas.**

**- Campylobacter.**

**- Spirochaetes.**

**- Mycoplasma.**

**- Fish pathogenic bacteria.**

**2- Systematic Mycology:**

**- Yeasts.**

**- Moulds.**

**- Dermatophytes.**

**- Diphasic fungi.**

**Virology (MIC 3129):**

**1- Introduction to virology.**

**2- Differences between viruses and virus-like agents.**

**3- Physical and Chemical properties of viruses.**

**4- Virus structure, multiplication.**

**5- Pathogenesis and types of virus infection.**

**6- Immunity against viral diseases.**

**7- Basis for virus taxonomy.**

**8- Picornaviruses.**

**9- Orthomyxoviruses.**

**10- Paramyxoviruses.**

**11- Corona viruses.**

**12- Birna viruses.**

**13- Rhabdoviruses.**

**14- Arboviruses (Togaviruses & Flaviviruses).**

**15- Arboviruses (Bunyaviruses & Reoviruses).**

**16- Herpes viruses.**

**17- Pox viruses.**

**18- Adenoviruses.**

**Parasitology (PAR):**

**A) Parasitology (Helminths) (PAR: 3130):**

**1- Introduction to helminthology.**

**2- Class: Trematoda.**

**3- Class: Cestoda.**

**4- Class: Nematoda.**

**B) Parasitology (protozoa and arthropods) (PAR: 3231):**

**1- Introduction to veterinary entomology.**

**2- Class: Insecta.**

**3- Class: Arachnida.**

**4- Introuction to veterinary Protozoa.**

**5- Phylum: Sarcomastigophora.**

**6- Phylum: Apicomplexa.**

**7- Phylum: Ciliophora.**

**8- Phylum: Sporozoa.**

**Pharmacology (PHA):**

**A) Pharmacology Part I (PHA: 3132):**

**1- General Pharmacology.**

**2- Autonomic nervous system.**

**3- Central nervous system.**

**4- Reproductive system.**

**5- Skin Pharmacology.**

**6- Eye Pharmacology.**

**7- Urinary system.**

**8- Cardiovascular system.**

**9- Respiratory system.**

**10- Digestive system.**

**B) Pharmacology Part II (PHA: 3233):**

**1- Drugs affecting metabolism.**

**2- Antibiotics.**

**3- Sulphonamides and other antimicrobials.**

**4- Anthelmintics.**

**5- Antifugals.**

**6- Antiprotozoals.**

**7- Hormones.**

**8- Disinfectants and antiseptics.**

**9- Antivirals antituberculars.**

**10- Antitumours.**

**11- Clinical Pharmacology.**

**12- Drug toxicology.**

**13- Fish Pharmacology.**

**Nutrition (NCN):**

**A) Basics of Nutrition (NCN:3134):**

**1- Introduction and composition of the animal body and its food.**

**2- Water and its metabolism.**

**3- Carbohydrates and their metabolism.**

**4- Proteins and their metabolism.**

**5- Lipids and their metabolism.**

**6- Minerals (introduction, macroelements and microelements).**

**7- Vitamins (introduction, fat-sol and water-sol).**

**8- Feed intake.**

**B) Special Nutrition (NCN:3235):**

**1- Digestibility of food.**

**2- Feeding standards and nutrient requirements for:**

**- Maintenance.**

**- Growth.**

**- Reproduction and lactation.**

**- Fattening.**

**- Work.**

**- Wool production.**

**3- Feeding of dairy cattle and buffalo.**

**4- Feeding of sheep and goat.**

**5- Feeding of poultry and rabbit.**

**6- Animal products and human nutrition.**

**Principles Epidemiology (HZE:3236):**

**1- Introduction (definitions, historic evolution of epidemiology, uses, core epidemiologic functions, the epidemiologic approach, descriptive epidemiology, analytic epidemiology).**

**2- Chain of infection.**

**3- Concepts of disease occurrence.**

**4- Natural History and Spectrum of disease.**

**5- Steps of outbreak investigation and methods of detection of epidemic diseases (monitoring, surveillance an intensive follow up).**

**6- Diagnosis and screening.**

**7- Public health surveillance.**

**8- Prevention, control and eradication of epidemic disease.**

**9- Epidemiologic studies.**

**Animal Hygiene (HZE):**

**A) Environmental Hygiene (HZE:5137):**

**1- Introduction to environmental hygiene.**

**2- Air hygiene.**

**3- Climatic changes and animal health.**

**4- Water hygiene.**

**5- Soil hygiene.**

**6- Hygienic disposal and management of animal wastes.**

**7- Stress and its impact on animal health.**

**8- Housing of animals and poultry.**

**B) Animal Hygiene and Preventive Medicine (HZE:5238):**

**1- Epidemiology and risk analysis.**

**2- Combating of contagious diseases.**

**3- Biosecurity and biosafety.**

**4- Disinfection and disinfectants.**

**5- Eradication of ectoparasites.**

**6- Rodent control.**

**7- Aquaculture hygiene.**

**ZOONOSES (HZE):**

**A) Zoonoses, Part I (HZE:5139):**

**1- Introduction and Epidemiology of Zoonoses.**

**2- Bacterial Zoonoses.**

**3- Rodent- borne Bacterial Zoonoses & rodent control.**

**4- Bacterial Food-poisoning.**

**5- Rickettsial Zoonoses.**

**6- Human Diseases Spread by Animals.**

**B) Zoonoses, Part II (HZE:5240):**

**1- Viral Zoonoses.**

**2- Prion Diseases.**

**3- Parasitic Zoonoses.**

**4- Mycotic Zoonoses.**

**Internal Medicine (ANM):**

**A) Internal Medicine, Part I (ANM:4141:**

**1- General systemic states.**

**2- Diseases of the cardiovascular system.**

**3- Diseases of the respiratory system.**

**B) Internal Medicine, Part II (ANM:4242):**

**1- Diseases of the urinary system.**

**2- Diseases of the musculoskeletal system.**

**3- Diseases of the skin, conjunctiva and external ear.**

**4- Diseases of the nervous system.**

**C) Internal Medicine, Part III (ANM:5143):**

**1- Disease of the alimentary tract part I:**

**2- General manifestations.**

**3- Diseases of the digestive tract of mono-gastric non-ruminants.**

**4- Diseases of the intestine, liver and peritoneum.**

**5- Disease of the alimentary tract part II:**

**6- Diseases of the digestive tract of ruminants.**

**7- Diseases of the newborn.**

**D) Internal Medicine, Part IV (ANM:5244):**

**1- Diseases of intensive production (metabolic disorders).**

**2- Diseases associated with nutritional deficiencies.**

**3- Diseases of fattening herds.**

**4- Diseases associated with allergy.**

**5- Diseases associated with inheritance of undesirable characteristics.**

**6- Specific diseases of uncertain etiology.**

**E) Field studies in internal medicine (ANM: 4245)**

**- Field study of clinical cases of farm animals**

**- Field study of clinical cases of pet animals**

**- Tutorial discussion of the differential diagnosis and prognosis of the examined cases**

**- Sorting out and recording of the examined cases**

**Infectious Diseases (ANM):**

**A) Infectious Diseases, Part I (ANM:5146):**

**1- Introduction of infectious diseases.**

**2- Infectious diseases of newly borne animals.**

**3- Infectious diseases causing abortion.**

**4- Infectious diseases of cattle:**

**- Bacterial, mycotic, rickettsial and prion diseases.**

**- Viral diseases.**

**- Parasitic diseases.**

**B) Infectious Diseases, Part II (ANM:5247):**

**1- Infectious diseases of sheep and goat:**

**- Bacterial, mycotic, rickettsial and prion diseases.**

**- Viral diseases.**

**- Parasitic diseases.**

**2- Infectious diseases of equine:**

**- Bacterial and mycotic diseases.**

**- Viral diseases.**

**- Parasitic diseases.**

**3- Infectious diseases of camel.**

**4- Infectious diseases of pet animals:**

**- Bacterial and mycotic diseases.**

**- Viral diseases.**

**- Parasitic diseases.**

**Surgery, Anaesthesiology and Radiology (SAR):**

**A) Anaesthesiology and Ophthalmology (SAR:3248):**

**1- Anaesthesiology:**

**- Introduction to anaesthesia.**

**- Local anaesthesia.**

**- Regional anaesthesia.**

**- Pre- anaesthetics.**

**2- Ophthalmology:**

**- Ocular anatomy.**

**- Eye examination.**

**- Occular therapeutics.**

**- Eyelid affections.**

**- Conjunctival affections.**

**- Affections of anterior and posterior chambers.**

**B) General Surgery (SAR:4149):**

**1- Sepsis and antiseptics.**

**2- Haemorrhage.**

**3- Fluid therapy.**

**4- Wounds.**

**5- Inflammation.**

**6- Necrosis, ulcer and gangrene.**

**7- Burns and scalds.**

**8- Abscess.**

**9- Sinuses and fistula.**

**10- Cyst and tumours.**

**11- Bone affections.**

**12- Joint affections.**

**13- Tendon and tendon sheath affections.**

**14- Affections of bursa.**

**15- Muscle affections.**

**16- Nerve and blood vessel affections.**

**C) Radiology and surgery of limbs (SAR:4250):**

**1- Surgery of limbs (Lameness):**

**- Introduction to lameness.**

**- Forelimb affections.**

**- Hind limb affections.**

**- Hoof affections.**

**- Claw affections.**

**2- Radiology:**

**- Introduction to radiology.**

**- Radiography.**

**- Ultrasonography (General principals, diagnosis of surgical affections ).**

**D) Special and experimental Surgery (SAR:5151):**

**1- Digestive system affections.**

**2- Urinary system affections.**

**3- Genital system affections.**

**4- Cranial sinuses' affections.**

**5- Ear and horn affections.**

**6- Teeth affections.**

**7- Hernia and abdominal muscles' affections.**

**8- Back and tail affections.**

**9- Udder and teat affections.**

**10- Experimental Surgery:**

**- Experimental surgery unit.**

**- Experimental animal models.**

**- Experimental surgical interventions.**

**E) Field studies in animal surgery (SAR: 5152)**

**- Field study of surgical affections of farm animals.**

**- Field study of surgical affections of pet animals.**

**- Tutorial discussion of the differential diagnosis and prognosis of the examined cases.**

**- Sorting out and recording of the examined cases.**

**F) Veterinary endoscopy (SAR: 5253):**

**1- Basics of veterinary endoscopy.**

**2- Preparation for endoscopic interventions.**

**3- Laparoscopy, arthroscopy, thoracoscopy, gastro-enteroscopy and laryngeoscopy**

**4- Post-endoscopic care.**

**Theriogenology (THR):**

**A) Andrology (THR:4154):**

**1- Functional anatomy of male genital system.**

**2- Endocrinology of male reproduction.**

**3- Age of puberty and breeding.**

**4- Lack of sexual desire.**

**5- Congenital affections of male genital system.**

**6- Pathological affections of male genital system.**

**7- Sire selection.**

**8- Diseases causing abortion.**

**B) Gynecology (THR:4255):**

**1- Functional anatomy of female genital system.**

**2- Puberty, estrous cycle and estrous detection.**

**3- Endocrinology of reproduction.**

**4- Synchronization of estrous.**

**5- Congenital causes of infertility in cattle and buffalo.**

**6- Hormonal causes of infertility in cattle and buffalo.**

**7- Pathological causes of infertility in cattle and buffalo.**

**8- Environmental causes of infertility in cattle and buffalo.**

**9- Hormonal causes of infertility in mares.**

**10- Pathological causes of infertility in mares.**

**11- Pathological causes of infertility in pet animals.**

**Hormonal causes of infertility in pet animals.**

**12- Reproductive ultrasonography:**

**- General principles.**

**- Pregnancy diagnosis.**

**- Doppler evaluation of maternal, fetal and gonadal vessels.**

**- Ultrasnographic diagnosis of reproductive disorders.**

**C) Obstetrics (THR:5156):**

**1- Gestation period.**

**2- Fetal membranes and fetal fluids.**

**3- Signs and judgment of fetal maturity.**

**4- Eutocia (normal birth).**

**5- Abnormalities of fertilization.**

**6- Diseases of fetal membranes and fetal fluids.**

**7- Diseases of fetus during gestation.**

**8- Diseases of dam during gestation.**

**9- Induction of abortion and parturition.**

**10- Dystocia.**

**11- Normal pureperium.**

**12- Retained placenta.**

**13- Ovarian recyclicity and endometrial restoration.**

**14- Pathological disorders during pureperium.**

**D) Artificial Insemination, In Vitro Fertilization and Embryo Transfer (THR:5257):**

**1- Semen collection in different animal species.**

**2- Semen evaluation.**

**3- Semen biochemistry.**

**4- Semen processing.**

**5- Forms of semen package.**

**6- Shipping of frozen semen.**

**7- Insemination techniques.**

**8- Embryo transfer.**

**E) Field studies in gynecology and obstetrics (THR: 5258)**

**- Field study of reproductive disorders of farm animals.**

**- Field study of reproductive disorders of pet animals.**

**- Tutorial discussion of the differential diagnosis and prognosis of the examined cases.**

**- Sorting out and recording of the examined cases.**

**Toxicology and Forensic Medicine (TFM):**

**A) Forensic Medicine (TFM:4159):**

**1- Animal identification.**

**2- Death injuries due to physical agents.**

**3- Wounds.**

**4- Asphyxia.**

**5- Blood and seminal stains examination.**

**6- Animal euthanasia.**

**7- Medico-legal reports.**

**8- Pregnancy, abortion and sexual offences.**

**9- Animal doping.**

**10- Examination of vetro-legal cases.**

**B) Toxicology (TFM:4260):**

**1- General toxicology.**

**2- Toxicity evaluation tests.**

**3- Reproductive toxicity tests.**

**4- Teratology tests.**

**5- Irritants.**

**6- Corrosive poisons.**

**7- Mycotoxins and mycotoxicosis.**

**8- Pesticide toxicology.**

**9- Plant poisons.**

**10- Animal poisons.**

**11- Gases and volatile poisons.**

**12- Ecotoxicology.**

**13- Drug toxicity.**

**14- Necropsy protocol.**

**15- Veterinary analytical toxicology.**

**Milk Safety and Technology (FST):**

**A) Milk Safety and Technology (FST:4161):**

**1- Introduction and technical terms.**

**2- Physical properties of milk.**

**3- Chemical composition of milk.**

**4- Sanitation and keeping quality of milk.**

**5- Sources of microbial contamination of milk.**

**6- Factors influencing microbial growth in milk.**

**7- Fermentation of milk.**

**8- Diseases transmitted to consumer through milk.**

**9- Fecal pollution and indicator microorganisms.**

**10- Detection of abnormal milk.**

**11- Isolation of pathogenic microorganisms from milk.**

**12- Clean milk production.**

**13- Detergents & chemical sterilizers and milking machine.**

**14- Food poisoning.**

**B) Milk Products, Eggs and Fat Safety and Technology (FST:4262):**

**1- Processing of milk.**

**2- Cream and related products.**

**3- Butter and related products.**

**4- Cheese.**

**5- Fermented milk.**

**6- Concentrated milk.**

**7- Milk powder.**

**8- Ice cream.**

**9- Food preservation.**

**10- Residues.**

**11- Quality assurance and HACCP.**

**12- Edible Fat and Oil:**

**- General properties of fat and oils.**

**- Chemical structure of fat and oils.**

**- Natural sources of fat and oils and their manufacture.**

**- Fat and oil products.**

**- Fat substitutes.**

**13- Table egg:**

**- Introduction and structure of an egg.**

**- Changes of egg after laying.**

**- Microbiology and antimicrobial properties of the egg.**

**- Egg quality defects.**

**- Grading of egg quality and cleaning.**

**- Egg preservation.**

**- Egg processing and products.**

**Meat Safety and Technology (FST):**

**A) Meat, poultry and fish Safety and Technology (FST:5163):**

**1- Food animals.**

**2- Abattoir.**

**3- Lymphatic system.**

**4- Identification of animal species.**

**5- Bacterial, mycotic, viral and parasitic diseases.**

**6- Abnormal and general pathological conditions.**

**7- Affections of specific parts of the carcass.**

**8- Microbiology of meat.**

**9- Meat spoilage and food poisoning.**

**10- Hazard Analysis Critical Control Points (HACCP) system during meat production.**

**11- Keeping quality of meat.**

**12- Chemical residues in meat.**

**B) Meat, poultry and fish products Safety and Technology (FST:5264):**

**1- Meat plant design and construction.**

**2- Application of HACCP system in meat processing plant.**

**3- Preservation of meat (drying, smoking, radiation and low & high temperature).**

**4- Food packaging.**

**5- Fish products' safety and technology.**

**6- Poultry slaughterhouse construction.**

**7- Poultry products' safety and technology.**

**8- Animal By-products:**

**- Definition and classification.**

**- Design of animal by-products' plant.**

**- Skin and hides.**

**- Bone, fish, meat and blood meals.**

**- Stomach and intestine.**

**- Fat and edible offal.**

**- Pharmaceutical use of animal by-products.**

**- Economic importance of animal by-products.**

**Fish Diseases and Management (PFD):**

**A) Fish Diseases and Management, Part I (PFD: 4165):**

**1- Aquaculture.**

**2- Fish rearing facilities.**

**3- Construction of fish farm.**

**4- Fish management methods.**

**5- Integrated fish culture.**

**6- Natural propagation of culture fish.**

**7- Induced propagation of culture fish.**

**8- Suitable water quality for fish culture.**

**9- Cycle of fish production.**

**10- Pond fertilization.**

**11- Common problems in fish farm.**

**B) Fish Diseases and Management, Part II (PFD: 4166):**

**1- Introduction, stress and its relation to fish diseases.**

**2- Parasitic diseases of fish.**

**3- Bacterial diseases of fish.**

**4- Viral diseases of fish.**

**5- Mycotic diseases of fish.**

**Poultry Diseases (PFD):**

**C) Poultry Diseases Part I (PFD:5167):**

**1- Bacterial diseases of poultry.**

**2- Rabbit bacterial diseases.**

**3- Mycotic diseases and mycotoxicosis in poultry.**

**4- Nutritional diseases of poultry.**

**D) Poultry Diseases, Part II (PFD:5268):**

**1- Viral diseases of poultry.**

**2- Parasitic diseases of poultry.**

**3- Rabbit viral and parasitic diseases.**

**4- Miscellaneous diseases and viruses of poultry.**

**Biology (BIO:1169):**

**1- Plant physiology:**

**- Cytoplasm and colloidal systems.**

**- Diffusion and osmosis.**

**- Enzymes.**

**- Respiration and photosynthesis.**

**2- Systematic botany:**

**- Principles of plant systematic.**

**- Classification and characterization of plant kingdoms.**

**3- Chordates:**

**- Introduction and general characters of Chordates.**

**- Classification of phylum Chordata.**

**- Classification of Subphylum Vertebrata.**

**4- Invertebrate zoology.**

**5- Entomology:**

**- Taxonomy and classification.**

**- External and internal anatomy of insects.**

**- Development and metamorphosis of insects.**

**Biophysics (BPHS:1170):**

**1- Electric and magnetic.**

**2- Gluss’ law.**

**3- Electric potential.**

**4- Capacitation.**

**5- Current and resistance.**

**6- The magnetic field.**

**7- Ampere’s law.**

**8- Farady’s law of induction.**

**General Chemistry(CHM:1171):**

**1- Organic chemistry:**

**- General principles of organic chemistry and alkanes.**

**- Alkenes and Alkynes.**

**- Alcohols and Ethers.**

**- Aldehydes and ketones.**

**- Saturated monocarboxylic acids.**

**- Monocarboxylic acid derivatives.**

**- Amines, aminoacids and proteins.**

**- Carbohydrates.**

**2- Physical chemistry:**

**- Concept of mole.**

**- Stoichemistry.**

**- Gases.**

**- Dalton’s law.**

**- Thermochemistry.**

**- Hess’s law.**

**- Intermolecular forces.**

**- Solutions.**

**- Colligative properties.**

**3- Analytical chemistry:**

**- Atom components.**

**- Electronic configuration.**

**- Quantum numbers and shielding effect.**

**Basics of Veterinary Medical Terminology (VMT:1172):**

**1- Basic word roots, prefixes, and suffixes.**

**2- Verbs, nouns, pronouns, articles, preposition and contractions.**

**3- Capitalization and punctuation.**

**4- Gerund.**

**5- Formal letters.**

**6- General rules.**

**7- Conjunctions.**

**8- Medical terminology.**

**9- Comprehension.**

**Computer (Applied uses) (COM:1173):**

**1- Introduction and basics of computer science.**

**2- Applied and scientific uses of computers.**

**Ethics of Veterinary Practice and Scientific Research (EVSR:2274):**

**1- Ethics of animal care and use in Veterinary Medicine.**

**2-Veterinarian and professional ethics.**

**3- The animals' interests.**

**4- The role of the veterinary profession.**

**5- Ethics enforcement agencies.**

**6- The veterinarian as the animals' advocate.**

**7- Curative veterinary medicine.**

**8- Veterinary research.**

**9-Veterinary hygiene and public health.**

**The percentage of teaching hours of the Bachelor subjects of**

**Faculty of Veterinary Medicine- Minia Veterinary Medical Sciences program, University.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Subject** | **The number of hours and the percentage (%) Faculty of Veterinary Medicine- Minia University.** | | | |
| **Theoretical hours** | **Practical hours** | **Total hours per semester** | **The percentages (%)** |
| **Hx15 week= The total** | **The total \**  **4665 x100** |
| Biophysics | **2** | **2** | **4x15=60** | **1.28** |
| General Chemistry | **2** | **2** | **4x15=60** | **1.28** |
| Biologically | **2** | **2** | **4x15=60** | **1.28** |
| Biostatistics | **1** | **1** | **2x15=30** | **0.64** |
| Anatomy | **8** | **11** | **19x15=285** | **6.11** |
| Histology | **4** | **4** | **8x15=120** | **2.57** |
| Physiology | **6** | **7** | **13x15=195** | **4.18** |
| Biochemistry | **7** | **8** | **15x15=225** | **4.82** |
| Genetics | **2** | **2** | **4x15=60** | **1.28** |
| Animal & poultry behavior and management | **4** | **4** | **8x15=120** | **2.57** |
| Pharmacology | **4** | **4** | **8x15=120** | **2.57** |
| Toxicology and Forensic Medicine | **4** | **6** | **10x15-150** | **3.21** |
| Bacteriology & Mycology and Immunology | **4** | **6** | **10x15-150** | **3.21** |
| Virology | **2** | **3** | **5x15=75** | **1.61** |
| Nutrition | **4** | **4** | **8x15=120** | **2.57** |
| Animal, Poultry and fish Production | **4** | **4** | **8x15=120** | **2.57** |
| Economics and veterinary projects administration | **2** | **2** | **4x15=60** | **1.28** |
| Principles of Epidemiology | **2** | **2** | **4x15=60** | **1.28** |
| Obstetrics, Gynecology and Artificial Insemination | **8** | **12** | **20x15=300** | **6.43** |
| Pathology | **8** | **8** | **16x15=240** | **5.14** |
| Parasitology | **6** | **4** | **10x15-150** | **3.21** |
| Clinical Pathology | **2** | **3** | **5x15=75** | **1.61** |
| Internal Medicine | **8** | **11** | **19x15=285** | **6.11** |
| Infectious Diseases | **4** | **6** | **10x15-150** | **3.21** |
| Surgery, Anesthesiology and Radiology | **11** | **13** | **24x15=360** | **7.72** |
| Poultry Diseases | **4** | **6** | **10x15-150** | **3.21** |
| Fish Diseases and Management | **4** | **4** | **8x15=120** | **2.57** |
| Zoonoses | **4** | **2** | **6x15=90** | **1.92** |
| Veterinary Hygiene | **5** | **4** | **9x15=135** | **2.89** |
| Nutrition Hygiene | **8** | **8** | **16x15=240** | **5.14** |
| Veterinary Medical Terminology | **2** | **-** | **2x15=30** | **0.64** |
| Computer | **1** | **2** | **3x15=45** | **0.96** |
| Animal Welfare and Rights | **1** | **1** | **2x15=30** | **0.64** |
| Ethics of veterinary practice | **2** | **-** | **2x15=30** | **0.64** |
| Field studies | **-** | **10** | **10x15-150** | **3.21** |
| **Total** | **142 (45.81)** | **168 (54.19%)** | **310x15=4650** | **100** |