

# **Veterinary Laboratory Techniques**

## **This is a self-paced class with continuous enrollment**

**Cost: \$25.00**

Animals get sick, just as their human counterparts do. As a consequence, veterinarians are in need of technicians who are capable of running the batteries of tests required to diagnose their patients. Animals suffer from many of the same diseases as humans, and as a consequence, medical laboratory procedures for veterinary practices have evolved from technologies and instrumentation used in comparable tests performed on humans.

This course is for anyone who aspires to work in a veterinary office, veterinary research, a veterinary laboratory, or who needs a refresher course to bring them up-to-date. It is also ideal for someone who has worked in a laboratory performing tests on humans, but wishes to transcend the species barriers and move into the same job in the animal world.

No text book purchase is required. Online references have been provided. The student is expected to read all 8 lessons, and take the associated exams. In addition, there are assignments to get the most benefit from this course. Participation in class forums is also encouraged and rewarded.

### **The course will deal at length with the following Topics:**

**Lesson 1 – Glossary – A dictionary of terms that will be used throughout the course**

**Lesson 2 – Laboratory Instrumentation and Equipment**

- Lab Design
- Instrumentation and Equipment
- Spectrophotometer
- Automated Analyzers
- Laboratory Safety
- Quality Control

**Lesson 3 – Hematology**

- Hematopoiesis
- Erythropoiesis
- Hemoglobin Synthesis
- Erythrocyte Characteristics
- Erythrocyte Function
- Forms of Hemoglobin
- Leukopoiesis
- Leukocyte Characteristics
- Leukocyte Function
- Thrombocytes
- Collection and Handling of Blood

#### **Lesson 4 – The Complete Blood Count**

- Counting of Erythrocytes and Leukocytes
- Hemoglobin
- The Differential Blood Smear
- Erythrocyte Morphology
- Erythrocyte Abnormalities
- Leukocyte Morphology
- Platelets or Thrombocytes

#### **Lesson 5 – Blood Coagulation**

- The Coagulation Cascade
- Coagulation Defects
- Coagulation Evaluations

#### **Lesson 6 – The Immune System**

- Non-Adaptive Immunity
- Adaptive Immunity
- Antigen-Antibody Interactions
- The Complement System
- Immunologic Defects
- Measuring Immune Response
- Blood Groups and Immunity
- Typing and Cross-Matching Of Blood

#### **Lesson 7 – Blood Chemistry**

- Liver Function Tests
- Enzyme Analyses
- Kidney Function Tests
- Pancreatic Function Tests
- Electrolytes

#### **Lesson 8 – Urinalysis**

- Formation of Urine
- Physical Testing
- Chemical Testing
- Microscopic Examination

#### **Lesson 9 – Normal Lab Values**

- Normal Blood Values – Hematology
- Normal Blood Values – Coagulation
- Normal Blood Values – Chemistry
- Normal Blood Values – Urinalysis
- Selected SI Units and Conversion Factors

**Students have the opportunity to purchase certificates upon successful completion of the course.**

## **Grading Policy**

A = 100 - 90  
B = 89 - 80  
C = 79 - 70  
D = 69 - 60  
F = 59 - Below

**This course is worth 1.5 Continuing Education Units (1.5 CEUs)**

- A score of 90% and above entitles the student to purchase a **Certificate of Academic Excellence**
- A score of 80-89% entitles the student to purchase a **Certificate of Merit**
- A score of 75% entitles the student to purchase a **Certificate of Appreciation**

**Certificates cost \$25 and can be purchased after completion of the course.**

## **Disclaimer**

This class is for informational or refresher purposes, not certification. It cannot be substituted for any state, government, licensing, or educational requirements.

## **Questions?**

Contact me prior to enrollment at [\*\*webbycyberclasses@yahoo.com\*\*](mailto:webbycyberclasses@yahoo.com)