Syllabus 2017

Fundamentals of Veterinary and Biomedical Laboratory Techniques (ANSCI 365)
4 credits: 3hr lecture & 2.5 hr lab/week - weekly quizzes, four exams and a classroom presentation
Text: Laboratory Procedures for Veterinary Technicians (Hendrix & Sirois, sixth ed)

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Introduction
Veterinary practice laboratory, basic research laboratory, general laboratory safety

Laboratory Instrumentation
(Principles and proper use of balance, pH meter, microscope, refractometer, chemistry analyzer, hematology analyzer, centrifuge, thermocycler)

Hematology & hemostasis
(Hematopoiesis, neoplasia & coagulation, blood collection, blood smears, blood indices)

Immunology, serology and molecular diagnostics
(Immune response, immune disorders, tests of humoral & cell-mediated immunity, blood groups, molecular diagnostics)

Laboratory measurements, weights and volumes
(Proper means of measuring weights & volumes, standards)

Graphing and statistical analysis
(Basic statistical terms and applications)

Laboratory Solutions
(Calculating concentrations and dilutions, preparing solutions and media)

Diagnostic microbiology
(Bacterial cell morphology, bacterial agar inoculation and growth, primary identification, antibiotic sensitivity testing)

Urinalysis
(Specimen collection, handling & storage, physical & chemical properties, microscopic examination)

Internal parasites
(Terminology & classifications, diagnosis of alimentary & blood parasitism)

External parasites
(Terminology & classification, skin scrapings, cellophane tape preparation, parasite identification)

Cytology
(Sample collection, concentration techniques, smear preparations, fixing & staining techniques, cytology of specific sites)

Clinical chemistry
(Protein assays, hepatobiliary assays, kidney assays, pancreas assays, electrolyte assays)
Grading Rubrik

10 sets of Lab Questions and Answers – 5 points each (50)

10 Take home Quizzes – 5 points each (50)

4 Exams – 100 points each (400)

1 In-class poster presentation – 100 points

1 Lab participation grade – 250 points (20 points for each of 10 labs – participation/write-up; 10 points each for field trips; 30 points for neatness/organization/index)

Total points: 850 points

Grading scale:
A  93-100
A- 90-92
B+ 87-89
B  83-86
B- 80-82
C+ 77-79
C  73-76
C- 70-72
D+ 67-69
D  63-66
D- 60-62
F  <60