TASK 1: Identify, describe and interpret microscopic abnormalities in blood, bone marrow, body fluids, and tissues (cytology and histology) from domestic and non-domestic animals

- Tested via glass slides and image-based multiple choice questions (MCQs)
- ~30% of Phase II

Skills and knowledge to:
- Write a coherent, organized descriptive report
- Write a concise summary relative to the descriptive findings
- Write an interpretive conclusion(s) and/or diagnosis(es)
- List appropriate disease(s), condition(s), and/or differential diagnoses
- List potential causes(s)
- Describe associated changes in other organ(s)
- Outline appropriate ancillary tests and anticipated results (e.g. special stains, immunohistochemistry, electron microscopy, PCR-based clonality, flow cytometry, cytology, other specialized laboratory tests in realms of biochemistry, serology, microbiology, immunodiagnostics)

TASK 2: Recognize and interpret static visual test results pertinent to veterinary clinical pathology

- Tested via image-based MCQs
- ~10% of Phase II

Skills and knowledge for interpretation of:
- Hematology cytograms
- Flow cytometry plots
- Coagulation tracings
- Platelet aggregation plots
- Macroscopic hematology test results (eg. Coombs tests)
- Gross appearance of submitted samples
- Special and immunochemical stains
- Electron micrographs
- Quality assurance and quality control data
- Protein electrophoretograms and immunofixation reactions
- PCR clonality results

TASK 3: Interpret and communicate clinicopathologic data from domestic and non-domestic animals

- Tested via case essays and MCQs
- ~30% of Phase II

Skills and knowledge to:
- Describe pathophysiology of conditions leading to laboratory abnormalities
- Integrate laboratory abnormalities into a diagnosis (or differential diagnoses)
• Recommend appropriate ancillary tests to further confirm definitive or differential diagnoses
• Interpret population laboratory data or study set data
• Interpret integrated laboratory results (biochemistry, urinalysis, serology, microbiology, serum protein electrophoresis, immunodiagnostics, coagulation, hematology, etc.)

**TASK 4: Apply the principles of commonly used laboratory instrumentation and methods**
- **Tested via non-image based MCQs**
- **~10% of Phase II**
  Using knowledge to:
  • Describe analyzer and test procedure methodologies
  • List sample types and collection methods
  • Describe procedures for reference interval determination
  • List errors and interferences (pre-analytical, analytic and post-analytical)
  • Define test properties (sensitivity, specificity, predictive values, ROC, etc.) and selection
  • Describe quality control, quality assurance, relevant statistics
  • Describe procedures for reference interval and method validation principles
  • Describe routine, special and immunochemical stains
  • Describe principles of light microscopy
  • List the rules and regulations for laboratory safety and biosafety

**TASK 5: Apply knowledge of the pathophysiology and diagnosis of disease, with emphasis on manifestation in laboratory test data**
- **Tested via non-image based MCQs**
- **~20% of Phase II**
  Using knowledge of pathogenesis, etiology and organ-based causes to answer questions concerning the following disease processes:
  • Genetic alteration
  • Disturbance of growth/neoplasia
  • Cell aging/degeneration/injury/death
  • Infection/immunity/inflammation
  • Metabolic/nutritional/deficiency
  • Hemodynamic/vascular disease

**TASK 6 Demonstrate knowledge of the basic mechanisms of disease**
- **Tested via non-image based MCQs**
- **100% of Phase I (See Phase I Topic Distribution below)**
  Using knowledge of:
  • Mechanisms fundamental to disease in animals, including principles of:
    o Cellular injury
    o Inflammation and repair
• Hemodynamic disorders
• Physical and chemical injury
• Neoplasia
• Congenital and genetic diseases
• Molecular pathology
• Infectious processes
• Immunology

• Mechanisms are general in nature in that they relate to most animal species

NON-TESTABLE TASKS

TASK 7  Compose and communicate interpretation and significance of results
• Write clinical pathology reports using training, experience, professional judgment and other information in order to convey the interpretation in a clear, concise, and accurate manner.
• Communicate the significance of clinical pathology results using clear, concise oral and written language in order to convey the potential implications for a subject, patient, or population (animal and/or human).

TASK 8  Demonstrate proficiency in laboratory management and quality practices
• Define standard operating procedures in accordance with prescribed methods in order to ensure acceptable levels of quality and consistency.
• Evaluate specimens, reagents, instruments, and personnel training by inspection, review and documentation in order to ensure the validity of data.
• Evaluate data for evidence of pre-analytical and analytical error through inspection in order to determine if verification and troubleshooting are required to obtain reliable results.
• Demonstrate overall laboratory management aptitude

Phase II Blueprint Category Targets

Distribution by Species (Phase II)
S1 Domestic 70 – 85%
S2 Lab animal 10 – 15%
S3 Non-domestic 5 – 10%

Distribution by Organ system (Phase II)
O1 Hemolymphatic, including coagulation 20 – 25%
O2 Skin/Integument 6 – 12%
O3 Cardiovascular 2 – 4%
O4 Gastrointestinal 2 – 6%
O5 Pancreas, exocrine 2 – 6%
O6 Liver 12 – 15%
O7 Endocrine 8 – 12%
O8 Renal, including urinalysis and urinary tract 15 – 20%
O9 Respiratory 2 – 6%
O10 Nervous and special senses 2 – 4%
O11 Musculoskeletal 2 – 6%
O12 Reproductive 2 – 4%
O13 Multiorgan/Systemic/Other 2 – 6%
O14 Non-organ based* 10 – 20%

*Defined as mostly principles of laboratory technology, from selected items in Tasks 2 and 4.

**Distribution by topic** (Phase II)

| C1 Genetic | 5 – 10% |
| C2 Disturbance of growth/neoplasia | 20 – 30% |
| C3 Cell aging/degeneration/injury/death | ~5% |
| C4 Infection/immunity/inflammation | 25 – 35% |
| C5 Metabolic/including endocrinopathy, acid base, abnormal biochemistry | 10 – 15% |
| C6 Hemodynamic/vascular disease | ~5% |
| C7 Laboratory technology/analysis | 15 – 20% |

**Phase I (General Pathology Blueprint)**

**Distribution by topic** (Phase I Examination targets, same for both Anatomical and Clinical Pathology)

| C1 Genetic | 5 – 10% |
| C2 Disturbance of growth/neoplasia | 15 – 25% |
| C3 Cell aging/degeneration/injury/death | 5 – 15% |
| C4 Infection/immunity/inflammation | 35 – 55% |
| C5 Metabolic/nutritional/deficiency | 5 – 10% |
| C6 Hemodynamic/vascular disease | 5 – 10% |
| C7 Laboratory technology/analysis | 3 – 5% |