

Areas covered in PAACB Spore Analyst Level I exams.

Note: Topics not covered under this outline may be covered on the PAACB exams if determined to be appropriate by the PAACB Scientific Committee.

Outline headings refer to the corresponding sections of the Guidance Documents (refer to www.paacb.org)

Guidance Document #1: Basic Background Knowledge

- I. Basic mycology
 - A. Basic taxonomy
 - 1.-3. Basic taxonomy; Familiarity with major groups producing airborne fungi (Oomycetes, Zygomycetes, Ascomycetes, Basidiomycetes, Deuteromycetes);
 - 4. Understand the concept of Latin binomials.
 - B. Mechanisms of spore production and release.
 - 1. Understand how spore production relates to morphology among the major fungal groups.
 - 2. Relate spore release with weather parameters
 - C. Spore morphology
- II. Basic knowledge of bioaerosols
 - B. Basic understanding of particle settling, impaction, and filtration.
 - C. Know how to calculate concentrations from raw particle counts.
 - D. Basic understanding of the characteristics and patterns of spore prevalence (e.g, seasonality, frequency of recovery)
- V. Air sampling methods
 - A.1.-3. Have a working knowledge of the various samplers designed for direct microscopic examination.

Guidance Document #2: Bioaerosol Sampling

- II. Sampler descriptions
 - A. Basic knowledge of samplers designed for direct microscopic examination..
- III. Microscopy
 - A. Familiarity with the microscope
 - B. Familiarity with Köhler (or “even”) illumination.
 - C.-D. Know how to measure the field of view and calibrate an eyepiece micrometer.
- IV. Data
 - A. Calculations
 - 1. Be able to determine particles per sample (if only a fraction is counted)
 - 2. Be able to calculate airborne concentrations (particles/m³) from raw counts.

Guidance Document #3: Specific Protocols

- I. Acceptable samples
 - A. Know how a slide should be labeled.
 - B. Know how to analyze a broken or damaged sample.
- II. Know how to prepare a sample for direct microscopic examination.
- IV.A. Basic knowledge of particle deposition variability and approaches to counting a representative portion of a sample.
 - B. Understand approaches to dealing with overloaded samples.