Knowledge Base for NAB Counters

1 – Good microscope skills
   • Able to measure field diameter
   • Able to measure diameter of pollen grains or spores
   • Able to focus through various focal plains
   • Able to adjust diaphragm for optimum resolution
   • Able to use oil immersion objective
   • Minimum spec’s of a suitable microscope
   • Microscope maintenance

2 – Knowledge of Air Sampling and Analysis
   • Able to explain basic principles of sampler operation (Burkard or Rotorod)
   • Able to prepare slides, drum, or rods for daily (or weekly) changing
   • Knowledge of staining procedures for pollen and final slide preparation
   • Able to accurately count pollen and convert the count to a concentration
   • Sampler location parameters
   • Sampler maintenance and calibration
   • Supplies and materials

3 – Knowledge of Pollen Morphology
   • Able to identify common pollen types
   • Able to determine type of pollen aperture
   • Able to distinguish between polar and equatorial views
   • Able to focus on the pollen surface
   • Able to determine types of surface ornamentation

4 – Knowledge of Pollen Seasons
   • Knowledge of spring, summer, and fall pollen seasons
   • Familiarity with both common and scientific names of common pollen types
   • Knowledge of approximate time of the year when certain species release pollen
   • Knowledge of the major pollen types for the geographic area
   • Purpose for performing pollen counts

5 - Knowledge of Spore Morphology
   • Able to identify common spore types and spore categories
   • Able to identify attachment scars, germ pores, and other spore features
   • Able to determine types of surface ornamentation or appendages
   • Able to distinguish septate from non-septate spores

6 - Knowledge of Spore Dispersal and Fungal Biology
   • Familiarity with the dispersal mechanisms for fungal spores
   • Able to identify components of the "Dry Air Spora"
   • Knowledge of the meteorological conditions associated with the "Dry Air Spora"
   • Knowledge of the types of spores found during rainfall
   • Knowledge of the types of spores found during the day versus those found at night and early morning