

Waynesburg University

Center for Research and Economic Development

CRAIC Microspectrometer

The CRAIC microspectrometer is used in the near ultraviolet (near-UV), visible (VIS), and near infrared (NIR) spectral regions. The instrument can be used to measure transmission, reflectance, polarization and fluorescence spectra. Samples can be analyzed and viewed simultaneously through use of a digital imaging system. Applications include trace evidence, DNA analysis and forensic drug chemistry.

Bruker Raman Spectrometer

The Bruker Raman Spectrometer (Senterra) system allows for the analysis of trace materials (i.e. fiber, paint, polymers, minerals, etc.) by a vibrational spectroscopy method that complements the infrared system already in place at Waynesburg College.

Scanning Electron Microscope

The RJ Lee SEM is essential for characterization of forensic materials. The system is used to examine all materials encountered in forensic casework including soil, gunshot residue, glass, plastics, paint cosmetics, etc.

Optical Microscopy:

Olympus Stereomicroscope - The microscope permits viewing samples at magnifications of 5x to 70x. The method is used for initial evaluation of a sample and to document the sample through use of the digital photography attachment.

Polarized Light Microscope - The unit permits viewing samples at 5x to 400x. The method is used for examination of fibers, minerals, and other microscopic evidence.

Olympus Comparison Microscope - The microscope permits viewing of samples at magnifications of 50x to 400x in a side by side configuration. Two Olympus Model BX41 microscopes are used along with a Leeds Trace Comparison Bridge for simultaneous viewing of an unknown and known sample

Laminar Flow Hood

This hood is important for the preparation of small particle samples to prevent environmental contamination.

The new laboratory equipment listed complements existing instruments in the Waynesburg College science laboratories such as infrared spectrometers (IR), ultraviolet-visible spectrometers (UV-Vis), gas chromatographs (GC), gas chromatograph - mass spectrometer combinations (GCMS), atomic absorption spectrometers (AA), electrochemistry equipment and nuclear magnetic resonance (NMR) spectrometers.