Scientific Equipment

On board Sailing School Vessels Corwith Cramer and Robert C. Seamans
Operated by Sea Education Association, Woods Hole, MA, USA

Winches
Markey DESF-4 Hydrographic Winch with 3000-5000m 1/4” 3x19 wire rope
Markey DEBT-3 Auxiliary “enhanced BT” Winch with 1/8” wire rope
Bathythermograph Winches with 1/8” wire rope
Hydraulic j-frames
Rugged Controls sheave, LCI-90i display (CC)
Dynacon sheave, LCI-90 display (RCS)

Bathymetric Instrumentation
Knudsen Model 3260 Chirp sub-bottom profiling system, 2-7 kHz

Physical/Chemical Equipment & Instrumentation
Water sampling Carousel SBE 32SC with:
  Seabird Electronics (SBE) 90208 Auto Fire Module
  SBE “SeaCAT” Conductivity, Temperature and Depth (CTD) Profiler
  Biospherical PAR sensor
  Sea Point in-vivo chlorophyll-a Fluorometer
  Wetlabs CDOM Fluorometer and Transmissometer
  SBE-43 oxygen sensor
  12 x 2.5-L Niskin Water Sampling Bottles
  Acoustic Doppler Current Profiler (RDI Ocean Surveyor 75kHz)
  Octans fiber optic gyro-compass (CC); Ashtech ADU-5 (RCS)
  RBR XR420 towed CTD
  YSI-30 and YSI-85 handheld meters
  Orion 3-star benchtop pH meter
  Ocean Optics Flame spectrophotometers with DH-mini light sources
  Secchi Disk
  Star-Oddi centi-TD (temperature/depth) loggers for depth readings on towed net deployments
  Full complement of wet-chemical capability (e.g., column reductions, filtration)

Biological Sampling Equipment
Aquabotix Hydroyview ROV (200ft rating, color cameras and HD ideo)
Turner Designs Model 10-AU Benchtop Fluorometers
Sea-Gear 200, 335, 1000 μm mesh Plankton nets
Sea-Gear 335 μm mesh Neuston nets (1m wide by 0.5m high)
Sea-Gear 63 μm Phytoplankton nets
Tucker Trawl multiple opening/closing net
McLane Large Volume Water Transfer System (WTS-LV) (CC)
Phantom 3 Pro UAV Quadcopter for aerial observations
Geological Sampling Equipment
Shipek Sediment Grab
Gravity Corer

Microscopes
Zeiss Stemi 305 stereo dissecting microscopes
Zeiss Axiolab A1 LED fluorescence microscopes
Zeiss Axiocam microscope camera for digital photomicrographics

Datalogging
Underway clean-flowing seawater system with SBE-45 thermosalinograph, in-vivo chlorophyll and CDOM fluorometer, and transmissometer. System logs surface seawater salinity, temperature, in-vivo chlorophyll fluorescence, beam attenuation, CDOM fluorescence, as well as GPS position once per minute while underway.

Computers / Network
HP rp5700 (Windows 7; 2-4GB RAM) and Intel NUCi3 solid-state (Windows 10; 8GB RAM) Desktops for scientific instruments as well as shipboard navigation and communication equipment, SCS for data acquisition and logging, LAN and wireless network, Synology RS816 rack station network storage device, automatic data backup, student library with HP rp5700 Desktops, Intel I-NUC solid-state computer, printers, and Dell and Lenovo laptops.

Other
Laboratory equipment (centrifuges, adjustable micropipettes, etc.), Milli-Q DirectQ3, aquaria, PAR reference sensor, hydrophone and recorder, PCR thermocycler, electrophoresis gel rig