

The COURSE BRIAN KRAUTZ IS TAKING, WILL BE  
UP ON ALL THESE AREAS BY SUMMER  
Foothill College

Dr. Ellsworth

MEDICAL INSTRUMENTATION  
and the  
BIOMEDICAL EQUIPMENT TECHNICIAN

BRYAN KRAUTZ

Listed below are the major types of medical equipment grouped by principle of operation. For each device, the Foothill BMET graduate should know:

1. the physics and physiology concepts on which the device is based,
2. clinical applications (used by-, on whom-, where-, for what purpose),
3. steps in the basic operational check-out of the device, and
4. safety considerations and applicable safety and performance standards.

A. Electrochemical Instruments  
pH meters  
Electrophoresis/chromatography equipment

B. Electromechanical Equipment  
Electric beds  
Centrifuges  
Mixers  
Shakers  
Strip-chart & x-y recorders

53 C. Electronic Instruments  
ECG/EMG/EEG machines  
Physiological monitors  
Telemetry Systems  
Defibrillators  
Pacemakers  
Electrosurgical units  
Diathermy machines  
BMET test equipment

D. Hydraulic Equipment  
Hydrotherapy tanks  
Dialysis systems  
Heart-lung machines  
Operating tables  
Drop counters  
Infusion pumps

E. Ionizing Radiation Equipment  
X-ray machines & image intensifiers  
Mechanical tomography systems  
Computerized tomography systems  
Radioisotope scanners  
Gamma cameras  
Scintillation counters  
Radiation therapy equipment  
Radiation monitoring devices

F. Optical Equipment  
Microscopes  
Endoscopes (rigid & fiber optics)  
Lamps, surgical & examining  
Phototherapy units  
CCTV systems  
Spectrophotometers  
Densitometers

G. Pneumatic Equipment  
Resuscitators  
Respirators/ventilators  
Pulmonary function testing systems  
Anesthesia machines  
Suction equipment  
Hospital piped gas systems

H. Thermal Equipment  
Sterilizers  
Incubators & radiant warmers  
Hypo/hyperthermia units  
Thermometers  
Constant-temperature baths  
Ovens  
Refrigerated equipment

I. Ultrasonic Equipment  
Cleaners  
Tissue homogenizers  
Physical therapy units  
Imaging systems  
Flow detectors

J. Other  
Cell counters  
Automated blood chemistry systems  
Aortic balloon assist systems

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By JUNE OF 1979, I should have  
SOME UNDERSTANDING ON THIS LIST EXCEPT FOR  
CATEGORY "C" - THAT MAY TAKE TILL THE FOLLOWING JAN