



## Technical Training Course Descriptions

Welch Allyn offers technical education courses for Biomedical and Information Technology professionals covering cardiopulmonary products, patient monitors, defibrillators, and Acuity System Central Stations. Courses are designed for technical personnel who service and support Welch Allyn monitors, Electrocardiographs, Cardio Perfect, Acuity Central Stations & Networks. Instructors are Welch Allyn Service Engineers with thorough knowledge of the products. Each course includes both lecture and hands on service training. See the Technical Training Schedule and Registration document for additional details.

### [AED 20 – Automated External Defibrillator- Service Repair Training](#)

Welch Allyn's one day AED 20 defibrillator course covers non-warranty repair and maintenance of the AED 20. The course includes both lecture and hands-on service training. You will learn essential product configuration, theory of operation, assembly, and test details. Topics covered include:

- Basic AED operation
- System-level (modular) theory of operation
- Product assembly techniques
- Parts / Assembly replacement
- System enabled upgrades
- Modular troubleshooting
- Test and calibration procedures
- Recommended preventive maintenance
- Service test tools, recommended test equipment
- New Product Warranty
- Reporting Complaints to Welch Allyn

Class materials provided include: User Manual AED20.

Attendees should have working knowledge of microprocessor-based medical electronics servicing and analog and digital electronics theory.

### [PIC 30, 40, 50 - Portable Intensive Care System - Service Repair Training](#)

Welch Allyn's three day PIC defibrillator course covers non-warranty repair and maintenance of the PIC 30, 40, 50 product lines. The course includes both lecture and hands-on service training. You will learn essential product configuration, theory of operation, assembly, and test details. Topics covered include:

- Basic PIC operation
- System-level (modular) theory of operation
- Product assembly techniques
- Parts / Assembly replacement
- System enabled upgrades
- Modular troubleshooting
- Test and calibration procedures
- Recommended preventive maintenance
- Service test tools, recommended test equipment
- New Product Warranty
- Reporting Complaints to Welch Allyn

Class materials provided include: User Manual PIC 30, User Manual PIC 40 & 50, and the PIC Service Manual.

Attendees should have working knowledge of microprocessor-based medical electronics servicing and analog and digital electronics theory. It is strongly recommended to pre-read the PIC User Manuals & have familiarity with the operation of the PIC product prior to course instruction.



## Technical Training Course Descriptions

### Atlas Monitor - Service Repair Training

Welch Allyn's two day Atlas monitor course covers the non-warranty repair and maintenance of the Atlas product line. The course includes both lecture and hands-on service training. You will learn essential product configuration, theory of operation, assembly, and test details. Topics covered include:

- System-level (modular) theory of operation
- Product assembly techniques
- Parts replacement
- Modular troubleshooting
- Test and calibration procedures

Class materials provided include Atlas Service Manual

Attendees should have working knowledge of microprocessor-based medical electronics servicing and analog and digital electronics theory.

### VSM 300 Series Monitor - Service Repair Training

Welch Allyn's two day VSM 300 Series monitor course covers the non-warranty repair and maintenance of the VSM 53000 product line. The course includes both lecture and hands-on service training. You will learn essential product configuration, theory of operation, assembly, and test details. Topics covered include:

- System-level (modular) theory of operation
- Product assembly techniques
- Parts replacement
- Modular troubleshooting
- Functional Test and NIBP Characterization procedures (no calibration required)

Class materials provided include VSM 300 Series Service Manual

Attendees should have working knowledge of microprocessor-based medical electronics servicing and analog and digital electronics theory.

### Propaq LT - Service Repair Training

Welch Allyn's one day Propaq LT monitor course covers non-warranty repair and maintenance of the Propaq LT (802LT) series monitor and charging cradle. The course includes both lecture and hands-on service training. You will learn essential product configuration, theory of operation, assembly, and test details. Topics covered include:

- System-level (modular) overview
- PC Configuration Utility - user settings
- Modular troubleshooting
- Assembly/Repair module replacement
- Functional testing

Class materials provided include the Propaq LT Service Manual

Attendees should have working knowledge of microprocessor-based medical electronics servicing and analog and digital electronics theory.



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### [Micropaq Monitor - Service Repair Training](#)

Welch Allyn's one day Micropaq monitor course covers the replacement of the Micropaq case components. The course includes both lecture and hands-on service training. You will learn essential product configuration, theory of operation, assembly, and test details. Topics covered include:

- System-level theory of operation
- Product assembly techniques
- Case parts replacement
- Unit troubleshooting
- Functional test procedures

Class materials provided include Micropaq Service Manual

Attendees should have working knowledge of microprocessor-based medical electronics servicing and analog and digital electronics theory.

### [Propaq 200 Series Monitor - Service Repair Training](#)

Welch Allyn's two day Propaq monitor course covers non-warranty repair and maintenance of the Encore 200 Series, and Propaq CS product lines. The course includes both lecture and hands-on service training. You will learn essential product configuration, theory of operation, assembly, and test details. Topics covered include:

- System-level (modular) theory of operation
- Product assembly techniques
- Parts replacement
- Modular troubleshooting
- Test and calibration procedures

Class materials provided include Propaq Encore and Propaq CS Service Manuals

Attendees should have working knowledge of microprocessor-based medical electronics servicing and analog and digital electronics theory.

### [Acuity System Fundamentals Training](#)

Welch Allyn's three day Acuity System Fundamentals course introduces the student to a variety of software and hardware concepts, maintenance and troubleshooting techniques applicable to Acuity central stations and Flexible Monitoring systems. Topics covered include:

- Flexible Monitoring Components/Overview
- System Architecture, Hardware and Software
- Basic Administration and System Configuration
- UNIX Fundamentals
- Routine Maintenance
- Troubleshooting
- Support Strategy Processes

Attendees should be familiar with the concepts of network systems theory, software directory structure, and have basic keyboard / mouse skills.



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### Acuity System Administration Training

Welch Allyn's two day Acuity System Administration course is designed to enable the student to administer the Acuity Network, and introduces advanced network troubleshooting theory and procedures. Topics covered include:

- Acuity Hardware and Software Refresher
- Software Tools
- Terminal Servers
- Patient Name Server
- Switches, Routers, & Network Design
- Configurations and Advanced Troubleshooting

Strong knowledge of Acuity Operations and the UNIX operating system, including commands and file system navigation, are required.

Pre-requisites: **Acuity System Fundamentals**

### Acuity Wireless Patient Monitoring Training

Welch Allyn's two day Acuity Wireless Patient Monitoring course covers wireless local area networking (**WLAN**) concepts, networking hardware, software and system infrastructure. Topics covered include:

- WLAN Introduction & Theory
- WLAN Networks & Design
- Access Point Installation & Configuration
- DHCP Configuration
- WLAN Service Process and Validation

Attendees should have a basic understanding of radio frequency (RF) theory, network topology, and a strong working knowledge of the Acuity Central monitoring Station and UNIX.

Pre-requisites: **Acuity Fundamentals Acuity System Administration**

### SPOT Vital Signs 4200 Series Service and Repair Training Course

Welch Allyn's two day course delivers instruction, individual practice on your own equipment, and practical testing of your mastery of processes described in the latest Service Manual, Technical Service Bulletins and Directions for Use (DFU.) Content includes but is not limited to:

- Operation, controls, configuration,
- Service Intervals, Error Codes, Functional Testing procedures, troubleshooting, internal configuration mode,
- Re-Calibration, Service Work Checklist, Disassembly/Reassembly
- Systems: Thermometry, SPO2 (Masimo/Nellcor)
- Reporting Complaints and Service Data to Welch Allyn, New Product Warranty, Part numbers, Service Tools and Instruments.

Experience in Electronics, or Bio-Medical Engineering, or practical experience servicing electronic vital signs monitors is helpful.



## Technical Training Course Descriptions

### [SPOT Vital Signs LXi, 4500 Series Service and Repair Training Course](#)

Welch Allyn's two day course delivers instruction, individual practice on your own equipment, and practical testing of your mastery of processes described in the latest Service Manual, Technical Service Bulletins, and Directions for Use (DFU.) Content includes but is not limited to:

- Operation, controls, Initial Configuration, Printing, barcode scanning
- Connectivity Options (Note: This course does not include Wireless) ,
- Service Intervals, Error Codes, Functional Testing procedures, troubleshooting, internal configuration mode,
- Re-Calibration, Service Work Checklist, Disassembly/Reassembly
- SURE PB Technology, Thermometry (Sure Temp Plus and Braun ThermoScan Pro 4000), SPO2 (Masimo/Nellcor),
- Reporting Complaints and Service Data to Welch Allyn, New Product Warranty, Part numbers, Service Tools and Instruments. Tuition includes a battery adaptor service connector and a Pneumatic Adaptor Part number 20014200.

Experience in Electronics, or Bio-Medical Engineering, or practical experience servicing electronic vital signs monitors is helpful.

### [CP-100 and CP-200 Electrocardiographs Service and Repair Training Course](#)

Welch Allyn's two day course delivers instruction, individual practice on your own equipment, and practical testing of your mastery of processes described in the latest Service Manual, Technical Service Bulletins, and Directions for Use (DFU.) Content includes but is not limited to:

- Configuration and Operation
- Disassembly and Assembly
- Service Requirements and related technical information
- Service Tests
- Configuration Files
- How to perform a Full Functional Test
- Replacing Field Replaceable Parts
- Reporting Complaints and Service Data to Welch Allyn, New Product Warranty, Part numbers, Service Tools and Instruments.

Experience in Electronics, or Bio-Medical Engineering, or practical experience servicing electrocardiograph machines is helpful.