

GE Healthcare

Education Services

X-ray

2011 Technical Education



imagination at work

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Technical Service Training Tailored to Fit Your Needs!

Education Centers

Waukesha, WI - The GE Healthcare Institute is a state of the art facility providing a dedicated learning environment with over 210,000 square feet of learning space including 75 labs and 25 classrooms.

Blended Curriculum - Our technical service training offers a blended curriculum with web-based and in-resident courses. Our integrated training platform minimizes the time you spend away from home.

- **Web-based Courses**

Introductory, pre-requisite, and some differences courses are available for independent study.

- **In-Resident Courses**

(Classroom/Lab) Advanced courses held at the GE Healthcare Institute provide invaluable and practical hands-on training taught by industry-leading instructors.

Differences Courses - Tailored specifically for those who have previous training on GE Diagnostic Imaging Equipment and designed to bring you up to speed on the latest technology and equipment.

GE Health and Safety Policy

GE Healthcare requires students to wear closed-toe and closed-heel shoes while attending training. Safety toe-shoes are required, but steel-toe shoe covers are available in the classroom. Open-toe, high-heel shoes or sandals are not permitted.

About Technical Education from GE Healthcare

GE Healthcare Education Services delivers technical education for Diagnostic Imaging, Computed Tomography, Magnetic Resonance, Mammography, Nuclear Medicine/PET, Ultrasound, Monitoring, Diagnostic Cardiology, Infant Care and Anesthesia Delivery Systems and Respiratory products. We also offer a curriculum of Healthcare IT classes focused specifically on the needs of today's biomedical and technical professionals.

Our goal is to be recognized as the global leader in healthcare education solutions.

- Building customer knowledge and competencies through a diverse educational portfolio in an increasingly complex healthcare environment.
- Striving to exceed customer expectations by delivering exceptional quality education that is clinically relevant and has a measurable impact on practice.
- Be a provider of choice for Healthcare IT education regardless of medical equipment choices, previous learning or experience.

Added value for your education investment

College credit is available for many of our classes, both technical and Healthcare IT, through the University of Phoenix and DeVry University. If you are working toward a degree, or contemplating one, these classes may bring you closer to completion. Visit www.gehealthcare.com/training and choose "College Credit for Technical Training" for more information on these programs.

Contact our registrar for more information.
EdServices@ge.com
or 1-888-799-9921 press option 2

Registration Instructions

To download the Registration form, go to www.gehealthcare.com/education (under Technical Service Education, select Diagnostic Imaging: GE). Click on the "Register" button and download the Service Training Application Form (pdf). After completing this form, fax to: 262-574-8627, Attn: Registrar, GE Technical Service Training. Or e-mail to: EdServices@ge.com

After your application form is received/approved, the Registrar will contact the student to confirm dates, course prerequisites, and housing details (if In-Resident). After attendance and payment details are confirmed, a formal confirmation letter will be sent. For current course information, pricing, registration, or lodging information, please visit our web site.

Policies and Terms

- Accepted via email or phone: 888-799-9921 or edservices@ge.com
- Must be received 15 business days prior to the course start date
- A \$1,000 per week "no-show" or cancellation fee will be incurred if a student does not show up for class or does not cancel before the 15 business day window
- GE reserves the right to cancel or reschedule any class. GE will not be held responsible for any travel costs incurred due to causes beyond our control, such as, but not limited to, hurricanes, tornados, or strikes

Attendance

- Students are required to arrive on time for class.
- Class start and end times vary. Please refer to your e-mail enrollment notification.
- A "no-show" is not eligible for tuition reimbursement.
- Students must pass an assessment to receive certificate of successful completion.

Cancellations

Please note that should cancellation of this class become necessary, less

than 20 working days (1 month) prior to the course start date, the following cancellation fees will be in effect: Please contact the Training Registrar directly if cancellation is necessary.

- Courses with a duration of one week or less: \$1,000
- Courses with a duration of two weeks or less: \$2,000
- Courses with a duration of three weeks or less: \$3,000

Low Enrollment

GE Healthcare reserves the right to cancel classes due to low enrollment. Classes with low enrollment 15 business days prior to the scheduled date will be cancelled. Please consider this when booking your travel.

When GE Healthcare cancels a class, tuition will be refunded in full. Alternatively, tuition may be applied to the cost of another class scheduled to take place within 12 months of the original class.

GE Healthcare will not be held responsible for any travel costs incurred due to circumstances beyond our control, such as, but not limited to, hurricanes, tornados, or labor strikes.

In-Resident Training at the GE Healthcare Institute

For your convenience during your in-resident training, there are onsite meal services and condominium accommodations conveniently located across the street from the Healthcare Institute.

Program Managers

CT/PET & Cross Modality:

Joel Jensen Joel.Jensen@ge.com

MR:

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Nuclear Medicine & Radiopharmacy:

Stacy Marten Stacy.Marten@ge.com

X-ray:

Dan Pittenger Daniel.Pittenger@ge.com

Note: Most courses have the following special considerations: A functioning laptop computer with a CD-rom reader, network card and a modem card is required for use during this course. The browser on the computer must be IE4 or Netscape 4.5 or higher. Minimum system requirements include 133 MHz Windows 95, NY 4.0 or higher 32 MB of RAM 16-bit color display adapter.

Advantage Workstation 4.1/4.2 Service (Web)

This training will support the service engineer as they install the Advantage Workstation 4.1 and 4.2 products across modalities and will cover the following topics:

- Safety
- System Overview
- Install/Configure
- Troubleshooting
- System Operation
- Version differences between Advantage Workstation 4.0, 4.1, and 4.2

Course Competencies:

- Identify the features, functionality, and major components of the system
- Identify the basic setup and configuration
- Recognize how to operate the system in the application mode
- Identify troubleshooting techniques and tools
- Identify the differences between the AW 4.0, 4.1, and 4.2 products

Product Number:

R0902CM \$2,100

Delivery Method: Web**Length of Course:** 6 hours**Program Information:**

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Diamond/Delta 32 Service (Web)

This eLearning course includes the Diamond mammography unit and the Delta 32 digital option. The first unit covers the Diamond system. The second unit includes the Delta 32 and how it interfaces to the Diamond. Each unit has four modules: System Overview Operation Calibration and Configuration Service and Troubleshooting

Product Number:

R0167RY \$850

Delivery Method: Web

Length of Course: 2 hours

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Innova Systems Service (Web)

This web-based course is divided into several modules that enable the service technician to access the training and support material in different ways.

Course Competencies:

High-level course competencies include the following:

- Demonstrate safe practices and take appropriate safety measures against possible hazards while working with Innova systems
- Identify the features, functionality, and major components of the Innova systems
- Operate the Innova systems at the application level for performance evaluation of the system
- Load and configure Innova system software
- Perform mechanical and system calibrations in accordance with the documented procedures on the Innova systems
- Diagnose, troubleshoot, and repair the Innova systems using all available tools and documentation

Product Number:

R0160RY \$4,990

Delivery Method: Web

Length of Course: 12 hours

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

LC Advantx Vascular Service (Web)

This course is the first part of the LC Advantx Vascular System curriculum and must be completed prior to attendance of the in-resident training course.

Course Competencies:

- Identify the features, functionality, and major components of the system
- Identify the basic setup and configuration
- Recognize how to operate the system in the application mode
- Identify troubleshooting techniques and tools
- Identify the basic calibration procedures and how they are performed

Product Number:

R0144RY

\$3,300

Delivery Method: Web**Length of Course:** 10 hours**Program Information:**

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Legacy Advantx E Systems (Web)

This web course will introduce the student to the Legacy Advantx System providing a system overview, introduction to calibration, configuration, operation, and troubleshooting. The web test, which includes 5 test modules, should be taken after studying the web course material.

Course Competencies:

- Identify System Components
- Configure the Legacy Advantx E System
- Calibrate the Legacy System
- Operate the System in Applications Mode using the Console
- Troubleshoot the Legacy system using the various diagnostic tools and procedures specific to the equipment

Product Number:

R0142RY \$4,990

Delivery Method: Web

Length of Course: 21 hours

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Networking and DICOM Basic for DI Service

This will prepare the Service Engineers in configuring and troubleshooting networks, which use the DICOM protocol for transferring patient data and how to read and use DICOM Conformance Statements.

Course Competencies:

- Theory, introduction to 7 layers OSI and 5 layer TCP/IP protocols (Basic model only)
- Identify hardware used in networking, review of the most used networking devices, Cables, NIC, Switch and Routers
- Simple network connection with 2 to 5 devices
- DICOM definitions, theory and configuration
- Reading DICOM Conformance statements
- Installation, IP and DICOM configuration details
- Simple Network trouble-shooting using telnet, ping and DICOM ping

Product Number:

R0907CM

\$2,590

Delivery Method: Web**Length of Course:** 13 hours**Program Information:**

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Precision 500D Theory (Web)

This course focuses on the Precision 500D: a full-featured, classical Rad and Fluoro system. It provides an overview of the Precision system, which includes a review of the Common Service Desktop, operator controls, application modes and safe working practices.

Product Number:

R0137RY \$5,990

Delivery Method: Web

Length of Course: 4 hours

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Revolution Digital Rad Systems Service (Web)

The systems taught in the course include the following: Revolution XRd-2X (Lightning) Definium 8000 (Thunder) Completion of this web course (including the test) is required prior to the one week, in-resident course.

Product Number:

R0161RY

\$3,300

Delivery Method: Web

Length of Course: 7 hours

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Vascular New Products (Harmony & Elegance)

The Vascular New Products (Harmony & Elegance) Course introduces new hardware, software, and applications features to Innova Plus single plane cardiac and vascular labs. The course is designed for engineers who are responsible for servicing Innova Plus systems and Unity with Elegance systems. The skills learned in prior Innova courses will be applied to the unique requirements of the Innova Plus and Unity with Elegance systems. Hands-on labs and supporting classroom discussions explore the specific functions and features of the Innova Plus and Unity with Elegance systems. Emphasis is placed on operation, applications, configuration, calibration, troubleshooting and repair using system documentation, functional block diagrams, and diagnostic software.

Pre-Requisites Required:

X-ray Basic Service (Web)	R0181RY	\$950
X-ray Basic Service (Class/Lab)	R0182RY	\$8,215
Networking and DICOM Basic for DI Service (Web)	R0907CM	\$2,590
Advantage Workstation 4.1/4.2 (Web)	R0902CM	\$2,100
Innova Systems Service (Web)	R0160RY	\$4,990
Innova Systems Full Service (Class/Lab)	R0154RY	\$25,185

Product Number:

R0189RY \$10,285

Delivery Method: Class/Lab

Length of Course: 5 days

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

X-ray Basic Service

The XR Basic Service in-resident course will provide the student with the theory and physics of x-ray and the ability to operate and identify x-ray systems at a basic service level.

The course will provide classroom instruction as well as hands-on lab training on a variety of R&F systems

Lab Activities:

- Operation
- Power Up/Down
- Image Acquisition
- Image Archive (where applicable)
- Simple non-invasive repairs
- X-ray Principles

Pre-Requisites Required:

X-ray Basic Service (Web)	R0181RY	\$950
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Product Number:

R0182RY \$8,215

Delivery Method: Class/Lab

Length of Course: 11 days

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

X-ray Basic Service: Web

This course consists of two sections.

Prerequisite Course Material: Studying the prerequisite course material and passing the two tests is required before attending the corresponding in-resident course, XR Basic Service.

- Radiographic Basic Applications
- Fluoroscopic Basic Applications

Reference Course Material:

The reference course material is not required, but contains information that will be very beneficial for you to review before attending the in-resident course.

- X-ray Principles
- Radiographic Components
- Fluoroscopic Components

Product Number:

R0181RY \$950

Delivery Method: Web

Length of Course: 1.5 days

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

XR Innova IQ Table Training

The Innova IQ Table CBT is a self-paced, online course that is downloadable. It introduces the Elegance tilting table upgrade on Unity systems. This course is designed for engineers with prior Innova training and who will be responsible for installing, servicing, and providing support for Innova IQ Tables. The target audience includes primary Vascular Engineers, OnLine Center Engineers, and Field Engineers. The training will address only the differences between Innova Unity Single Plane and Innova Unity Single Plane with the Elegance Upgrade Kit. Emphasis is placed on site preparation, installation, configuration, calibration, operation, and servicing the Innova IQ Table.

Product Number:

R0188RY \$2,590

Delivery Method: Web

Length of Course: 4.5 hours

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

AMX-4 Full Service

This course introduces the AMX-4 portable X-ray system. Upon completion of this course, the student will be proficient in the service and maintenance of this unit.

Course Competencies:

- Install the AMX-4 utilizing approved procedures and protocols
- Perform applicable functional checks
- Perform preventive maintenance checks
- Perform assembly/disassembly procedures; identify major component locations
- Safely service mechanical components using existing field service tools and procedures
- Troubleshoot to board/item level using appropriate service documentation, diagnostics, and peripheral test equipment

Pre-Requisites Required:

X-ray Basic Service (Web)	R0181RY	\$950
X-ray Basic Service (Class/Lab)	R0182RY	\$8,215

Product Number:

R0103RY \$4,015

Delivery Method: Class/Lab

Length of Course: 3 days

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Definium 5000 System Full Service

This in-residence course will provide comprehensive hands-on training for the Definium 5000 Radiographic System including the following:

- System configuration & calibration
- Applications and operation
- Installation
- Troubleshooting

Pre-Requisites Required:

X-ray Basic Service (Web)	R0181RY	\$950
X-ray Basic Service (Class/Lab)	R0182RY	\$8,215

Product Number:

R0179RY \$6,165

Delivery Method: Class/Lab

Length of Course: 5 days

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Definium AMX 700 Full Service

This is a differences course for the digital, portable AMX-4 and Definium AMX 700. Training only includes the digital aspects of the system.

Pre-Requisites Required:

X-ray Basic Service (Web)	R0181RY	\$950
X-ray Basic Service (Class/Lab)	R0182RY	\$8,215
AMX-4 Full Service (Class/Lab)	R0103RY	\$4,015

Product Number:

R0165RY \$2,665

Delivery Method: Class/Lab

Length of Course: 2 days

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Digital Rad Systems Full Service

The XR Digital Rad Systems service-training course is a blended course, consisting of self-paced eLearn pre-work and one week of in-residence class and labs. It will equip the student with the ability to install, operate, calibrate, and troubleshoot at a Full Service level. The systems taught in the course include: Revolution XRd, Definium 8000, Optima XR640 and Discovery XR650.

Course Competencies:

- Demonstrate safe practices and take appropriate safety measures against possible hazards while working with the systems
- Operate the systems at the application level for performance evaluation of the system Identify the features, functionality, and major components of the systems Identify the basic setup and configuration
- Identify troubleshooting techniques and tools
- Identify the basic calibration procedures and how they are performed

Lab Activities:

- Operation
- Calibration
- Installation information
- Troubleshooting
- Finding information in Service documentation

Pre-Requisites Required:

X-ray Basic Service (Web)	R0181RY	\$950
X-ray Basic Service (Class/Lab)	R0182RY	\$8,215
Networking and DICOM Basic for DI Service (Web)	R0907CM	\$2,590
Revolution Digital Rad Systems (Web)	R0161RY	\$3,300

Product Number:

R0122RY \$14,315

Delivery Method: Class/Lab

Length of Course: 5 days

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Discovery XR650 & Optima XR640 Differences (Web)

The service engineer qualified to take this course should have experience on the Definium 8000 system and should be able to perform the following tasks:

- Load from cold
- Positioner calibration
- Network and site configuration
- CANBus diagnostics
- Detector coolant replacement

Course Competencies:

- Identify the new features and functionality of the major components of the systems
- Identify new pre-installation/installation requirements
- Identify the basic setup and configuration(s) of the new systems
- Identify new safety features on the systems
- Identify new software functions
- Identify new SUIF/CSD features
- Identify the new communications/power paths for the systems

Product Number:

R0184RY \$2,590

Delivery Method: Web

Length of Course: 4 hours

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Pre-Requisites Required:

Digital Rad Systems Full Service (Class/Lab)	R0122RY	\$14,315
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Proteus XR/a Service

Proteus XR/a Training is a web based training product. It provides an introduction to the components, features and operation of the Proteus XR/a radiographic system offering information on the calibration, set-up, and basic troubleshooting for the Proteus XR/a. The test, which includes 4 test modules, should be taken after studying the web course material.

Course Competencies:

- Identify and list the features, options, and limitations of the Proteus system
- Use the laptop tool to troubleshoot and calibrate the Proteus system
- Use service diagnostic tools for troubleshooting the Proteus system
- Operate, calibrate, and troubleshoot the Jedi generator, AEC, and Proteus Collimator

Pre-Requisites Required:

X-ray Basic Service (Web)	R0181RY	\$950
X-ray Basic Service (Class/Lab)	R0182RY	\$8,215

Product Number:

R0128RY \$5,990

Delivery Method: Web

Length of Course: 9 hours

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Legacy Advantx E Systems Service

This course will equip the student with the ability to install, operate, calibrate, and troubleshoot at a Full Service Level.

Course Competencies:

- Identify System Components
- Configure the Legacy Advantx E System
- Calibrate the Legacy System
- Operate the System in Applications Mode using the Console
- Troubleshoot the Legacy system using the various diagnostic tools and procedures specific to the equipment

Pre-Requisites Required:

X-ray Basic Service (Web)	R0181RY	\$950
X-ray Basic Service (Class/Lab)	R0182RY	\$8,215
Networking and DICOM Basic for DI Service (Web)	R0907CM	\$2,590
Legacy Advantx E Systems (Web)	R0142RY	\$4,990

Product Number:

R0143RY \$18,435

Delivery Method: Class/Lab

Length of Course: 17 days

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Precision 500D Service

This course provides the skills needed to operate, calibrate, troubleshoot and support the Precision 500D.

Course Competencies:

- Operate the Precision 500D
- Locate assemblies and sub-assemblies on the Precision 500D
- Identify system communication and power distribution routes
- Configure the options, user preferences and network parameters on the Precision 500D
- Calibrate the Precision 500D
- Backup and restore configuration and calibration data
- Perform a load from cold
- Evaluate image quality
- Access and interpret error logs in troubleshooting situations
- Identify the field replaceable unit (FRU) level

Product Number:

R0138RY \$11,325

Delivery Method: Class/Lab

Length of Course: 5 days

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Pre-Requisites Required:

X-ray Basic Service (Web)	R0181RY	\$950
X-ray Basic Service (Class/Lab)	R0182RY	\$8,215
Precision 500D Theory (Web)	R0137RY	\$5,990

Precision 500D Aurora Differences

The objective of this course is to introduce the Precision 500D trained engineer, the new features and hardware in the Aurora System, specifically the following:

- Identify the new hardware in the Aurora
- Explain the high level function of the new hardware
- Identify the new service features
- Identify the new communication paths through the system
- Explain the system power on/off, reset and emergency off sequences

Pre-Requisites Required:

X-ray Basic Service (Web)	R0181RY	\$950
X-ray Basic Service (Class/Lab)	R0182RY	\$8,215
Precision 500D Theory (Web)	R0137RY	\$5,990
Precision 500D Service (Class/Lab)	R0138RY	\$11,325

Product Number:
R0180RY \$4,990

Delivery Method: Web

Length of Course: 1 hour

Program Information:
For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Precision MPi Full Service

Precision MPi Technical Training will equip the service engineer with the ability to install, operate, calibrate, and troubleshoot at a Full Service level.

Course Competencies:

- Safely work on the system
- Operate the system in Application mode
- Identify the major components
- Recognize the Features and Options
- Configure the system
- Calibrate the system
- Save & restore calibration & configuration data
- Perform Image Quality tests
- Identify troubleshooting tools and LEDs
- Network the system

Pre-Requisites Required:

X-ray Basic Service (Web)	R0181RY	\$950
X-ray Basic Service (Class/Lab)	R0182RY	\$8,215
Networking and DICOM Basic for DI Service (Web)	R0907CM	\$2,590

Product Number:

R0159RY \$13,285

Delivery Method: Class/Lab

Length of Course: 5 days

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Precision RXi Full Service

The Precision RXi Technical Training will equip the service engineer with the ability to install, operate, calibrate, and troubleshoot at a Full Service level.

Course Competencies:

- Operate the Precision Rx
- Locate assemblies and sub-assemblies on the Precision Rx
- Identify system communication and power distribution routes
- Configure the options, user preferences and network parameters on the Precision Rx
- Calibrate the Precision RXi including OTS and Wallstand
- Backup and restore configuration and calibration data
- Create a ghost image of the digital PC
- Flash software to applicable positioner and digital components
- Evaluate image quality
- Access and interpret error logs in troubleshooting situations
- Identify the Field Replaceable Unit (FRU) Level
- Connect remotely to the system using ISD
- Identify planned maintenance procedures
- Identify HHS tests required

Lab activities:

- Operation
- Calibration
- DICOM Networking
- Troubleshooting
- Finding information in Service documentation

Pre-Requisites Required:

X-ray Basic Service (Web)	R0181RY	\$950
X-ray Basic Service (Class/Lab)	R0182RY	\$8,215
Networking and DICOM Basic for DI Service (Web)	R0907CM	\$2,590

Product Number:

R0158RY

\$10,285

Delivery Method: Class/Lab

Length of Course: 9 days

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Innova Biplane Full Service

The Innova Biplane Course introduces digital detectors to biplane cardiac and vascular labs. The course is designed for engineers who are responsible for servicing biplane systems. This audience requires learning only the differences between Innova single plane and Innova biplane. The skills learned in prior Innova courses will be applied to the unique requirements of the Innova biplane system. Labs and supporting classroom discussion explore the specific functions and features of biplane systems. Emphasis is placed on operation, applications, configuration, calibration, troubleshooting and repair using system documentation, functional block diagrams, and diagnostic software.

Course Competencies:

- Demonstrate safe practices when working on the system
- Identify major features and functionality of the Innova Biplane System
- Install the system without support, except for procedures that require physical assistance
- Maintain the system in good working order by performing periodic maintenance as required
- Perform system software loads
- Operate the Innova Biplane System at the application level
- Configure/reconfigure hardware settings and software options
- Perform system measurements, calibrations and adjustments
- Locate and Identify the procedures to remove and replace commonly replaced parts (FRUs)
- Troubleshoot system problems to the subsystem and board (FRU) levels

Product Number:

R0175RY \$11,325

Delivery Method: Class/Lab

Length of Course: 5 days

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Pre-Requisites Required:

Innova Systems Full Service (Class/Lab)	R0154RY	\$25,185
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Innova Systems Full Service

This Innova Systems service-training course is the replacement for all previous Innova courses. The following products are included in the training: Innova 2000, Innova 2100, 3100, &4100.

Course Competencies:

- Identify the features, functionality, and major components of the system
- Identify the basic setup and configuration
- Recognize how to operate the system in the application mode
- Identify troubleshooting techniques and tools
- Identify the basic calibration procedures and how they are performed

Pre-Requisites Required:

X-ray Basic Service (Web)	R0181RY	\$950
X-ray Basic Service (Class/Lab)	R0182RY	\$8,215
Networking and DICOM Basic for DI Service (Web)	R0907CM	\$2,590
Advantage Workstation 4.1/4.2 (Web)	R0902CM	\$2,100
Innova Systems Service (Web)	R0160RY	\$4,990

Product Number:

R0154RY \$25,185

Delivery Method: Class/Lab

Length of Course: 10 days

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

IVUS s5i (Web)

This course is a distance learning service-training solution for the IVUS (IntraVascular UltraSound) s5i system. The IVUS s5i is an optional imaging system integrated with Innova vascular X-ray systems and available on multi-vendor vascular systems. This course will train the student how to install, configure, calibrate, troubleshoot, and repair an IVUS system.

Course Competencies:

- Perform the following operations on an IVUS system: Power on, acquisition, review & processing, archive, and power down
- Identify the steps required for installing an IVUS system
- Configure an IVUS system including network settings
- Calibrate an IVUS system
- Troubleshoot an IVUS system and isolate to the FRU level
- Identify major components of IVUS and their physical location
- Perform a planned maintenance inspection
- Repair an IVUS system
- Use IVUS documentation to service the system

Product Number:

R0177RY \$1,625

Delivery Method: Web

Length of Course: 4 hours

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Pre-Requisites Required:

Innova Systems Full Service (Class/Lab)	R0154RY	\$25,185
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LCA Blended Systems

This course will equip the student with the ability to install, operate, calibrate, and troubleshoot at a Full Service level.

Course Competencies:

- Identify the System Consoles controls (Advantx, DLX, LC) and their functions
- Identify the Advantx System Power on and off sequences
- Identify and access the system’s Error Logs
- Troubleshoot the system using the appropriate error log
- Operate the LC system, positioner and the Omega 4 table
- List and explain the typical procedures performed on LCA systems and describe their features including the benefits to clinical applications.
- Operate the DLX system, options, upgrades and related Advantx sub-system

Lab activities:

- Operation
- Calibration
- Installation information
- Troubleshooting
- Finding information in Service documentation

Pre-Requisites Required:

X-ray Basic Service (Web)	R0181RY	\$950
X-ray Basic Service (Class/Lab)	R0182RY	\$8,215
Networking and DICOM Basic for DI Service (Web)	R0907CM	\$2,590
LC Advantx Vascular Service (Web)	R0144RY	\$3,300

Product Number:

R0148RY \$18,435

Delivery Method: Class/Lab

Length of Course: 18 days

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Diamond-Delta 32 Mammo Full Service

This course will equip the student with the ability to install, operate, calibrate, and troubleshoot at a Full Service level.

Course Competencies:

- Demonstrate safe practices and take appropriate safety measures against possible hazards while working with Diamond mammo systems
- Operate the systems at the application level for performance evaluation of the system
- Identify the features, functionality, and major components of the systems
- Identify the basic setup and configuration
- Identify troubleshooting techniques and tools
- Identify the basic calibration procedures and how they are performed

Lab activities:

- Operation
- Calibration
- Installation information
- Troubleshooting
- Finding information in Service documentation

Product Number:

R0151RY \$6,165

Delivery Method: Class/Lab

Length of Course: 5 days

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Pre-Requisites Required:

X-ray Basic Service (Web)	R0181RY	\$950
X-ray Basic Service (Class/Lab)	R0182RY	\$8,215
Mammography Systems Full Service (Class/Lab)	R0185RY	\$22,555
Diamond/Delta 32 Service (Web)	R0167RY	\$850

Digital Mammography Systems

The XR Digital Mammo Systems Full Service (Class/Lab) will provide the hands-on training required to effectively service the GE digital Mammo Systems including Seno 2000D, Senographe DS and Senographe Essential Digital Mammography systems. Prerequisites to this class are basic mammography training or equivalent experience including, Older mammo fundamentals classes, or the current XR Basic Service class (which also covers mammo basics). Older Rad and Fluoro fundamentals classes will not meet the prerequisite requirements, as they did not include mammo basics.

Course Competencies:

- Install digital mammo systems
- Configure digital mammo systems
- Calibrate digital mammo systems
- Perform image quality testing on digital mammo systems
- Reload digital mammo systems operating and application software
- Troubleshoot and repair the systems to the Field Replaceable Unit (FRU) level 80% of the time without support
- Perform functional checks on the systems
- Perform required planned maintenance on the systems
- Backup and restore the Senographe Databases
- Install and Operate CAD System
- Define the differences between the 2000D, Seno DS, and the Seno Essential regarding functionality, hardware and service
- Operate and calibrate the Stereotactic units for both DS and Essential

Product Number:

R0185RY \$22,555

Delivery Method: Class/Lab

Length of Course: 81 hours

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Pre-Requisites Required:

X-ray Basic Service (Web)	R0181RY	\$950
X-ray Basic Service (Class/Lab)	R0182RY	\$8,215

Senographe DMR and 800T Full Service (Blended Class/Lab)

This is a skill development course aimed at developing both the basic mammography knowledge, skills, and the specific DMR/800T/700T product skills required to successfully service GE's mammography systems.

Course Competencies:

- Perform physical installation of the Senographe DMR/800T/700T 100% of the time without support when receiving a new system
- Perform calibration and configuration of the Senographe DMR/800T/700T 100% of the time without support at installation
- Perform functional check-out of the Senographe DMR/800T/700T 100% of the time without support when servicing and maintaining the equipment
- Align and calibrate the Senographe DMR/800T/700T 100% of the time without support to meet ACR and HHS specifications
- Diagnose and troubleshoot the Senographe DMR/800T/700T using service documentation 80% of the time without support during routine service
- Install and calibrate the Stereotix II 100% of the time without support when receiving a new system
- Maintain the Stereotix II 80% of the time without support during routine service
- Apply the physics of X-ray generation in a mammography tube 100% of the time without support when servicing the system
- Analyze Mammography films to identify basic image quality problems and solutions 80% of the time without support during routine service and planned maintenance
- Identify basic positioning and anatomy on the Senographe DMR/800T/700T 100% of the time without support when operating the system

Product Number:

R0111RY \$10,285

Delivery Method: Class/Lab

Length of Course: 81 hours

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Pre-Requisites Required:

X-ray Basic Service (Web)	R0181RY	\$950
X-ray Basic Service (Class/Lab)	R0182RY	\$8,215

Performa

The GE/Instrumentarium Performa Mammography System course will provide the instructional and hands-on opportunities for the student to acquire the fundamental competencies to effectively and safely service the Performa Mammography System.

Course Competencies:

- Demonstrate a good working understanding of the electrical, mechanical and radiation aspects of the Performa that pose a risk to health and safety.
- Safely perform a physical assembly (installation) of the Performa
- Demonstrate a confident working knowledge of the functional operation and use of the Performa, and have a basic understanding of its circuit theory and design
- Demonstrate a good working knowledge of the Performa’s software and operating parameters
- Evaluate and calibrate the X-Ray generator
- Align and adjust (mechanical/electrical) the ECS/compression, vertical drive, collimation, Bucky, filter, and c-arm rotation systems
- Calibrate (electronic) the digital displays and software parameters
- Evaluate, adjust and calibrate the Vectre-AEC System and its related software operating parameters
- Install and demonstrate a good working knowledge of the Performa & Alpha AEC Calibration software tool

Product Number:

R0150RY \$6,165

Delivery Method: Class/Lab

Length of Course: 5 days

Program Information:

For the most current course information and pricing, please visit us at www.gehealthcare.com/education (under Technical Service Education, click on Diagnostic Imaging: GE).

Pre-Requisites Required:

X-ray Basic Service (Web)	R0181RY	\$950
X-ray Basic Service (Class/Lab)	R0182RY	\$8,215
Mammography Systems Full Service (Class/Lab)	R0185RY	\$22,555

Senographe Essential Stereotaxy (KIWI) Training

Online course designed for Engineers who are trained thru Senographe DS/
Essential (R0185RY or R0153RY). This course will provide information on servicing
and upgrading the system as well as differentiating between the Essential and
DS Stereo Units.

Product Number:

R0186RY \$2,590

Delivery Method: Web

Length of Course: 2 hours

Program Information:

For the most current course
information and pricing, please
visit us at www.gehealthcare.com/education (under Technical
Service Education, click on
Diagnostic Imaging: GE).

Essentials of Healthcare ITSM

This instructor-led class is specifically designed for technical professionals responsible for the installation and support of medical devices and the networks interconnecting them. The class is taught by highly qualified technical trainers and will focus on developing the practical skills needed by a biomedical engineer to interface with networked devices in healthcare today. Extensive labs with plenty of hands-on time allows the student with no previous IT training to gain confidence in this new and exciting arena. The class will build and troubleshoot flat, switched, routed, and wireless networks. Basic computer skills are required.



Intended Audience

- Biomedical equipment technicians
- Biomedical and clinical engineers
- Biomedical and clinical engineering managers
- Medical technology managers
- Hospital IT staff
- Any professional who supports the field of medical technology

Purchase Packages:

Tuition:

R0248PG \$3,850

Tuition & lodging:

R0249PG \$4,775

Tuition, lodging & air:

R0250PG \$5,670*

* US only

Delivery Method: Classroom

Length of Course: 5 days

Course Location:

Please visit www.gehealthcare.com/training for the most current information on dates and locations.

Securing the Healthcare IT EnvironmentSM

This instructor-led class is specifically designed for technical professionals responsible for the secure transport of electronic protected health information across healthcare IT infrastructures. This class is taught by experts in the healthcare IT field and topics include: a global security overview, relevant HIPAA Title II Privacy and Security Rule information, the top 10 HCIT network attacks and ways to prevent them, strategies to mitigate risk, and securing a home network. Hands-on labs include password cracking, configuring biometric identifiers, encryption, port scanning, using network analyzers, software firewall configuration, performing an MD5 Hash, and home router configuration. Students will perform a risk analysis of medical devices using MDS2 documentation and ACCE/ECRI tools. Basic computer skills and TCP/IP network troubleshooting techniques are required.



Intended Audience

- Biomedical equipment technicians
- Biomedical and clinical engineers
- Biomedical and clinical engineering managers
- Medical technology managers
- Hospital IT staff
- Any professional who supports the field of medical technology

Purchase Packages:

Tuition:

R0265PG \$5,000

Tuition & lodging:

R0266PG \$5,925

Tuition, lodging & air:

R0267PG \$6,820*

* US only

Delivery Method: Classroom

Length of Course: 5 days

Course Location:

Please visit www.gehealthcare.com/training for the most current information on dates and locations.

Required IT Skills:

- GE Essentials of Healthcare IT or equivalent

For list of core IT skills, see chart on the Student Information page.

Wireless in the Healthcare IT EnvironmentSM

This vendor-neutral class focuses on the installation, management, and troubleshooting of RF technologies in healthcare today; including WMTS, 802.11, RFID, and cellular communications. Topics include RF and antenna basics, common interference sources in healthcare, remote patient viewing using the Wireless Medical Telemetry Service (WMTS), 802.11 and access point configuration including wireless VLANs, RFID basics, cellular communications, and security requirements for wireless systems. Students receive hands-on training with network analyzers and spectrum analyzers, perform site surveys for WMTS and 802.11, and troubleshoot WMTS antenna systems.



Intended Audience

- Biomedical equipment technicians
- Biomedical and clinical engineers
- Biomedical and clinical engineering managers
- Medical technology managers
- Hospital IT staff
- Any professional who supports the field of medical technology

Purchase Packages:

Tuition:

R0268PG \$5,000

Tuition & lodging:

R0269PG \$5,925

Tuition, lodging & air:

R0270PG \$6,820*

* US only

Delivery Method: Classroom

Length of Course: 5 days

Course Location:

Please visit www.gehealthcare.com/training for the most current information on dates and locations.

Required IT Skills:

- GE Essentials of Healthcare IT or equivalent

For list of core IT skills, see chart on the Student Information page.

Essentials of HL7®

This vendor-neutral class prepares the student to configure and troubleshoot HL7. Focusing on V2.x, students will learn to use the HL7 standard as a reference source as well as vendor conformance documents to aid in interface design. Topics include the structure and encoding of common patient administration, order, results, and billing messages, as well as interface design, data mapping, and vocabulary. Common troubleshooting techniques will be discussed and class concepts will be reinforced through use of the HL7 Messaging Workbench software. This instructor-led course is open to anyone wanting a more in-depth insight into HL7, regardless of equipment choice in the healthcare environment.



Intended Audience

- Biomedical equipment technicians
- Biomedical and clinical engineers
- Biomedical and clinical engineering managers
- Medical technology managers
- Hospital IT staff
- Any professional who supports the field of medical technology

Purchase Packages:

Tuition:

R0344PG \$2,350

Tuition & lodging:

R0345PG \$2,905

Tuition, lodging & air:

R0346PG \$3,800*

* US only

Delivery Method: Classroom

Length of Course: 3 days

Course Location:

Please visit www.gehealthcare.com/training for the most current information on dates and locations.

Essentials of DICOM®

This instructor-led course prepares the participant to become proficient in the installation, maintenance and troubleshooting of DICOM on digital imaging networks. Participants will learn to use the DICOM standard as a reference source, analyze conformance statements for predicting connectivity, configure and use DICOM simulators, and capture and analyze DICOM traffic using freeware tools like the DICOM Validation Toolkit.



Intended Audience

- Biomedical equipment technicians
- Biomedical and clinical engineers
- Biomedical and clinical engineering managers
- Medical technology managers
- Hospital IT staff
- Radiologist
- Any professional who supports the field of medical technology

Purchase Packages:

Tuition:

R0307PG \$3,500

Tuition & lodging:

R0308PG \$4,055

Tuition, lodging & air:

R0309PG \$4,950*

* US only

Delivery Method: Classroom

Length of Course: 3 days

Course Location:

Please visit www.gehealthcare.com/training for the most current information on dates and locations.

Required IT Skills:

- GE Essentials of Healthcare IT or equivalent

For list of core IT skills, see chart on the Student Information page.

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