

Educational Services

Maximize Your Investment with Well-Trained Personnel



Advanced Instrumentation & Analysis Techniques (Category IV, Part Two) Course# 2044 (CEUs: 3.2)

This course is part two of the two courses required for the Category IV examination.

This 4-day class will provide the attendee with a solid background on how a data collector, FFT analyzer, functions. It will provide necessary information on how the FFT process works and how the end user can use the instrument to its' full capabilities. Students will learn the strengths and limitations of the modern data (FFT) collector.

Demonstrations will be performed to reinforce training topics. Lab calculations will be performed by the students throughout the course to reinforce topics learned in the class.

Topics to be covered:

- The FFT Analyzer
- Resolution
- Dynamic Range
- Window Effects
- Overlap
- Filtering
- Accuracy of the amplitudes and frequencies versus window effects
- Averaging
- Modulation
- Beats
- Multi-Channel Analysis
- Transient Data Analysis
- Nyquist Plots
- Bode Plots
- Waterfall Plots
- Impact Testing
- Natural Frequencies
- Mode Shapes versus Operating Deflection
- Stiffness from Impact Testing
- Methods of calculating Damping from "Q" Factor
- Modal Analysis

Course Information:

- Date: September 16 to 19, 2019
- Time: 8:00 AM to 5:00 PM daily
- Price: \$2,600
- Category IV Exam (Course# 2024EX) is available on Friday September 20th 2019. The cost of 2024EX is \$450 each.
- Location: Emerson Training Center 835 Innovation Drive, Knoxville, TN 37932
- Registration: To register, complete this **Registration Request**, or for more information, contact Emerson Educational Services at +1 800 338 8158.

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Training Courses

Emerson Educational Services is accredited by the International Association for Continuing Education and Training (IACET) and is accredited to issue the IACET CEU.

