



INDIANA FORENSIC INSTITUTE
in conjunction with
Wolf Technical Services, Inc.



2011 COURSE CATALOG
(January - June)

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INDIANA FORENSIC INSTITUTE

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Introduction to Radiation for Emergency Personnel

January 24, 2011

Richard Whitman

This course, by lecture and practical demonstration, provides an orientation and awareness of the different kinds of radiation that Police Officers, Firefighters and Forensics Personnel may see during accidents or incidents. The class focus will be on how each modality is commonly used and how each is used in forensics work. Special emphasis will be made on gathering evidence, the unique hazards of each and protection techniques for First Responders and/or Forensic Personnel.

TOPICS INCLUDE:

- ▶ Introduction to Radiation
- ▶ Medical uses of radioisotopes
- ▶ Authorities involved in radiation control in the United States
- ▶ X-rays for Medical
- ▶ Lasers, uses and characteristics
- ▶ Radiofrequency, i.e., Microwave, UHF, VHF
- ▶ Trends in Security Radiation Use
- ▶ Radioactive Materials: Characteristics of radioisotopes
- ▶ Industrial uses of radioisotopes
- ▶ Contamination events, e.g., a medical incident or a Improvised Nuclear Device
- ▶ X-rays for security applications
- ▶ Legalities and Radiation
- ▶ Radiation Incident Scenario (Tabletop Exercise)
- ▶ Radiation Measurements

Mr. Whitman has decades of experience in the field of radiation as applied to public safety.

Credit: 8 hours

Cost: \$260.00

Demonstrative Evidence

January 26, 2011

Timothy Maher

This course, by lecture and demonstration, provides an orientation and awareness of the different kinds of demonstrative evidence in common use. Preparation and presentation methods are discussed. Examples will include video, animations, simulations, photographs, and 3-D models. In-class exercises will be included. The importance of a coordinated and integrated litigation team will be discussed.

TOPICS INCLUDE:

- ▶ Why demonstrative evidence works
- ▶ Developing your own demonstrative evidence
- ▶ Choosing a demonstrative evidence type
- ▶ Developing a demonstrative evidence strategy
- ▶ Working with demonstrative evidence developers
- ▶ Evidentiary, testifying and admissibility issues
- ▶ Expert witnesses and demonstrative evidence

Mr. Maher has extensive experience as a demonstrative evidence consultant and developer, has served as faculty for several conference classes on the subject, and is the author of Demonstrative Evidence for Complex Litigation: A Practical Guide, by Lawyers & Judges Publishing.

Credit: 8 hours

Cost: \$260.00

Preparing Images for Courtroom Presentation

February 2, 2011

Timothy Maher

This course, by demonstration and practical “hands-on” training, teaches how to prepare exhibits using both hard copies and an electronic presentation. What to include in the presentation and how best to present it will be included. The course covers the expert witness presenting their visuals in court and from the prosecutor’s point-of-view, such as opening and closing arguments. A slide presentation program is taught which can be used for an electronic presentation in court and for preparing hard-copy visuals.

TOPICS INCLUDE:

- ▶ Presentation Software
- ▶ What to include in the presentation
- ▶ How to prepare visuals for an electronic presentation
- ▶ Creating and presenting a courtroom presentation

PREREQUISITE: A good working knowledge of computers.

Mr. Maher has extensive experience preparing courtroom visuals as a demonstrative evidence consultant and developer, and is the author of Demonstrative Evidence for Complex Litigation: A Practical Guide, by Lawyers & Judges Publishing.

Credit: 8 hours

Cost: \$260.00

Introduction to Forensic Comparative Science

February 3, 2011

John R. Vanderkolk

This course, by lecture, conference, and demonstration, teaches the fundamentals of comparative examination of patterned evidence. Examples include: finger, palm, and foot prints, shoe impressions, tire tracks, and fracture examinations. Examples of firearm/tool mark examinations will be presented. Also, examination of other types of biometric images will be presented. Attention is paid to the ACE-V examination process (Analyses, Comparisons, Evaluations, and Verifications) to conduct and document the examinations.

TOPICS INCLUDE:

- ▶ Natural and Unnatural Patterns
- ▶ Philosophy of Knowledge and Belief
- ▶ Forensic Comparative Science Communities
- ▶ ACE-V methodology
- ▶ Qualitative Quantitative Sufficiency
- ▶ Scientific Working Group Documents
- ▶ National Academy of Sciences Report
- ▶ Cognitive Vision Science
- ▶ Trust and Judgment
- ▶ Repeatable and Unique Features in the Source
- ▶ Levels of Details in Images
- ▶ Conclusions of Examinations
- ▶ Daubert Ruling

PREREQUISITE: The student must have sufficient vision, aptitude, and patience to conduct comparative examinations.

Credit: 8 hours

Cost: \$260.00

Forensic Digital Imaging, Phase I

February 14-18, 2011

Rudy Gruenke

This course, by conference, demonstration and practical “hands-on” training, teaches the basics of Adobe Photoshop, the use of digital cameras, scanners, computers and digital imaging methods to produce quality images for law enforcement professionals. The selection and use of equipment for efficient imaging as well as the handling of digital images in accordance with established SWGIT guidelines will be stressed.

TOPICS INCLUDE:

- ▶ System Diagnostics
- ▶ Image enhancement methods
- ▶ Digital cameras
- ▶ Archiving images
- ▶ Special filters for enhancing images
- ▶ Standard Operating Procedures
- ▶ Adobe Photoshop
- ▶ History logs
- ▶ Downloading images
- ▶ Film and flatbed scanners
- ▶ Digital darkrooms
- ▶ Digital Printers

RECOMMENDED EQUIPMENT: Digital camera kit (but not required).

PREREQUISITE: A basic understanding of photography and computers.

The course fee includes a copy of Forensic Digital Imaging and Photography, a textbook by Blitzer & Jacobia and published by Elsevier/Academic Press.

Mr. Gruenke has decades of experience in forensic imaging as part of a major police agency.

Credit: 40 hours

Cost: \$1,300.00

Forensic Digital Imaging, Phase II

March 14-18, 2011

Rudy Gruenke

This course, by conference, demonstration and practical, “hands-on” training teaches advanced tools in Adobe PhotoShop to produce quality images for law enforcement professionals. This course is designed for people who have training and experience in capturing and processing digital images, but need to assure that they are fully prepared to testify to images; in keeping with the recent report on forensics from the National Academy of Science, which indicates that experts should be generally knowledgeable in the scientific grounds for the tools and techniques that they employ, key aspects of the science behind the functions and equipment will be discussed. Students will be able to explain processes to a jury and to answer questions on why certain tools were used and how they work. In addition, in a recent trial, the SWGIT guidelines for image processing were to be introduced into the proceedings. This means that experts submitting images that they have processed should be fully prepared to testify that they followed those guidelines or have a strong argument as to why they used an alternative process. The appropriate SWGIT guidelines will be reviewed. Understanding Forensic Digital Imaging, by Blitzer Stein-Ferguson and Huang is included with this class.

TOPICS INCLUDE:

- ▶ Measurements and scales used in photography
- ▶ Basic filters and how they work
- ▶ SWGIT guidelines for key imaging steps
- ▶ Factors controlling resolution and how to set up to achieve a target resolution
- ▶ Image control and adjustments
- ▶ ICC Profiles
- ▶ Special plug-in filters
- ▶ Advanced photographic techniques
- ▶ Working with Raw Images
- ▶ Verifying Primary Images
- ▶ Color sensitivity and factors controlling camera or scanner response
- ▶ Interpolation tools and how they work
- ▶ Lenses, lens formulas, and how to set up special assignments
- ▶ Calculations the camera makes or you make when processing an image in raw format
- ▶ Color Management
- ▶ Layers, masks, and channels
- ▶ Alternative lighting
- ▶ Expanding Dynamic Range
- ▶ Hashing images
- ▶ Construct 1:1 Composites

RECOMMENDED EQUIPMENT: Digital camera kit (but not required).

PREREQUISITE: Applicants should have completed Forensic Digital Imaging Phase I or have equivalent experience using Adobe Photoshop, digital cameras and scanners.

Mr. Gruenke has extensive experience in forensic imaging as part of a major police agency.

Credit: 40 hours

Cost: \$1,300.00

Investigation of Fire Incidents, Phase I

March 21-22, 2011

Jay Dold

This course, by lecture, conference, and demonstration teaches the basics of how to investigate a scene where a fire has occurred. Attention is given to typical indicators of causes and sources of fire, problems recording the scene and collecting materials for laboratory analysis. This course is intended for people relatively new to the field.

TOPICS INCLUDE:

- ▶ Preliminary scene assessment
- ▶ What materials to collect for the lab
- ▶ How to prepare presentations
- ▶ Photodocumentation
- ▶ Measuring the scene
- ▶ SWGIT guidelines

Mr. Dold has a long experience as a fire investigator, both for a major agency and as an independent practitioner.

Credit: 16 hours

Cost: \$520.00

Investigation of Fire Incidents, Phase II

March 28-29, 2011

Jay Dold

This course, by lecture, conference, and demonstration teaches more advanced methods of how to investigate a scene where a fire has occurred. Attention is given to typical indicators of causes and sources of fire, analysis of samples and problems recording the scene and collecting materials for laboratory analysis. It is intended for people with some experience in the field. Investigation of Fire Incidents, Phase I or equivalent experience is a prerequisite.

TOPICS INCLUDE:

- ▶ Preliminary scene assessment
- ▶ What materials to collect for the lab
- ▶ How to prepare presentations
- ▶ Photodocumentation
- ▶ Measuring the scene

Mr. Dold has extensive experience as a fire investigator, both for a major agency and as an independent practitioner.

Credit: 16 hours

Cost: \$520.00

Crime Scene Digital Photography (*Still and Video*)

April 4-8, 2011

Rudy Gruenke

This course teaches law enforcement officers how to document a crime scene with high-quality photographs and video. Students will learn the basics of photography and use digital and video cameras to document mock crime scenes. Lectures, discussions, and practical exercises help students put specific techniques into practice.

TOPICS INCLUDE:

- ▶ Basic Photography
- ▶ Lenses/Filters
- ▶ Flash Photography
- ▶ Close-up Photography
- ▶ Digital Photography
- ▶ Video Cameras
- ▶ Crime Scene Photography
- ▶ Protocols for documenting crime scenes
- ▶ Camera Controls
- ▶ Exposure Controls
- ▶ .Lighting Techniques
- ▶ Intro to digital imaging
- ▶ Downloading Images
- ▶ Video Camera Controls
- ▶ Crime Scene Videography
- ▶ SWGIT guidelines

RECOMMENDED EQUIPMENT: Digital and Video cameras, tripod, macro lens, cable release, 3-foot extension cable for flash and spare batteries. A limited number of loaner still and video cameras are available.

PREREQUISITE: A basic understanding of photography is useful.

Credit: 40 hours

Cost: \$1,300.00

Working With an Expert

April 18-19, 2011

Sonia Leerkamp

This course, by lecture, demonstration and practical exercises, provides an orientation and awareness of the different kinds of issues a lawyer must address to develop a successful expert witness. Also what the expert should expect and ask for as the relationship develops. There will be examples of demonstrative evidence, discussion of how it should be used, and the probable reactions from opposing counsel. There is also the issue of the opposing counsel's expert, and how that individual should be cross examined.

TOPICS INCLUDE:

- ▶ How to find suitable experts
- ▶ Sharing the theory of the case
- ▶ Finder of fact expectations
- ▶ How to prepare defense for hearings
- ▶ Choosing the right one
- ▶ Review of the available evidence
- ▶ How to prepare offense for hearings
- ▶ What, exactly, should the testimony cover

Ms. Leerkamp is a four-term prosecutor in Hamilton County, Indiana.

Credit: 16 hours

Cost: \$520

Testimony and Legal Matters

April 25-26, 2011

Sonia Leerkamp and Amy Leitch

This course, by lecture and discussion, provides an overview of the rules and responsibilities of proffering testimony in depositions, trials and other legal forums. Presenters of testimony should know both the requirements of the law and the typical strategies lawyers might use as they prepare for trial.

TOPICS INCLUDE:

- ▶ Who is an “expert”?
- ▶ Direct and indirect testimony
- ▶ Admissibility vs. Weight
- ▶ What to expect in various forums
- ▶ Laws regarding testimony
- ▶ Biography and credentials
- ▶ Typical opposing counsel actions
- ▶ What can an expert say that a lay witness cannot
- ▶ Impartiality and the appearance thereof
- ▶ Types of legal forums: deposition, trial, hearing, etc.
- ▶ What to reveal at each type of forum
- ▶ Laws regarding displays and physical items
- ▶ Literature citation
- ▶ Practice in key areas of providing testimony

Both instructors are experienced prosecutors.

Credit: 16 hours

Cost: \$520.00

Basic Video Capture, Enhancement and Analysis

May 4-6, 2011

Rudy Gruenke

This course, by conference, demonstration and practical “hands-on” training, teaches students how to capture, enhance and analyze both analog and digital video through the use of a video imaging workstation. CrimeVision, Adobe Premiere, Adobe PhotoShop software and special video tools developed by the institute are used to edit and extract data from both the still and video digital images for analysis. Use and selection of equipment for efficient video capture, enhancement and analysis are covered in detail.

TOPICS INCLUDE:

- ▶ Introduction to Video
- ▶ Adobe Premiere software
- ▶ Video Capture Workstation
- ▶ Video Acquisition (analog & digital)
- ▶ Video Restoration
- ▶ Field Alignment
- ▶ Video Stabilization
- ▶ CrimeVision software
- ▶ Adobe PhotoShop software
- ▶ Demultiplexing
- ▶ De-Quad
- ▶ Frame Averaging
- ▶ Rescale
- ▶ Archiving

PREREQUISITE: Completion of Forensic Digital Imaging, Phase I is recommended or equivalent experience.

Mr. Gruenke has more than a decade of experience in forensic imaging as part of a major police agency.

Credit: 24 hours

Cost: \$780.00

Major Accident Scene Investigation

May 17-18, 2011

Kevin Johnson

This course teaches law enforcement officers how to document a major accident scene with high-quality photographs and video. Students will learn the basics of photography and use digital and video cameras to document mock accident scenes. Lectures, discussions, and practical exercises help students put specific techniques into practice. Attention will be given to, what should be collected, how to protect the gathered materials, what notes to take and photographs that should be taken.

TOPICS INCLUDE:

- ▶ Basic Photography
- ▶ Lenses/Filters
- ▶ Flash Photography
- ▶ Close-up Photography
- ▶ Digital Photography
- ▶ Video Cameras
- ▶ Protocols for documenting accident scenes
- ▶ Camera Controls
- ▶ Exposure Controls
- ▶ Lighting Techniques
- ▶ Intro to digital imaging
- ▶ Downloading Images
- ▶ Video Camera Controls
- ▶ Applicable SWGIT guidelines

RECOMMENDED EQUIPMENT: Digital and Video cameras, tripod, cable release, 3-foot extension cable for flash and spare batteries. A limited number of loaner still and video cameras are available.

PREREQUISITE: A basic understanding of photography is useful.

Credit: 16 hours

Cost: \$520.00

Investigation of Explosion Incidents

May 26-27, 2011

John Goodpaster

This course, by lecture, conference, and demonstration teaches how to investigate scenes where explosions have occurred. Attention is given to typical indicators of causes and sources of explosions, problems recording the scene and collecting materials for laboratory analysis.

TOPICS INCLUDE:

- ▶ Preliminary scene assessment
- ▶ Photodocumentation
- ▶ What materials to collect for the lab
- ▶ Measuring the scene
- ▶ How to prepare presentations

Mr. Goodpaster is an expert in analyses of explosions and the materials collected from scenes.

Credit: 16 hours

Cost: \$520.00

How to Testify at Depositions and Trials

June 2-3, 2011

Herbert Blitzer, Instructor
Jim Sobek, Guest Lecturer

This course, by lecture and discussion and practice, provides an overview of what the “expert” witness should provide in legal forums. Attention will be given to the most effective ways to present technical material to a lay audience. If students have a recent case that they can bring, they should. If not, sample cases will be provided. These will be presented and their strengths and weaknesses reviewed.

TOPICS INCLUDE:

- ▶ How to teach a lay audience
- ▶ Emotional and rational responses
- ▶ “Practice makes perfect”
- ▶ The Goldilocks solution
- ▶ Plaintiff or Prosecutor positions
- ▶ Demonstrations, facsimiles and real items
- ▶ Engaging the audience
- ▶ Making sure your technology is working
- ▶ Who else participated in preparation of materials
- ▶ Presenting credentials

Mr. Blitzer is a published author in the field of forensic science and Mr. Sobek has years of experience giving testimony.

Credit: 16 hours

Cost: \$520.00

Digital Imaging for Managers

June 6-7, 2011

Rudy Gruenke

This course, by conference, demonstration and practical “hands-on” training, teaches individuals how to set up an image workflow for managing digital files and write the standard operating procedure necessary when working with digital images. Managing the digital workflow and files created through the use of digital cameras has become a tremendous task. Ensuring they are not compromised is an absolute necessity. As with many other law enforcement operations, the way to achieve benefits without undue exposure to law related questions is through the development and implementation of effective SOP’s. This segment will review all areas of concern, describe the process for developing SOP’s and provide references for agencies interested in developing SOP’s.

TOPICS INCLUDE:

- ▶ Establishing a workflow
- ▶ Expected costs
- ▶ Training requirements
- ▶ Archive images
- ▶ Legal challenges
- ▶ Scientific Working Group on Imaging Technology (SWGIT) standards
- ▶ Equipment requirements
- ▶ Expected savings
- ▶ Protecting images
- ▶ Types of images
- ▶ Constructing an SOP

Credit: 16 hours

Cost: \$520.00

Law Enforcement Video Guides and Standards

June 13-14, 2011

Herbert Blitzer

The National Institute of Justice is developing a standard for performance of video systems that are intended for use in police vehicles. Once in effect, agencies will be required to use systems that have passed the standards if they wish to use federal grant funding to acquire the systems. In addition, the National Institute of Standards and Technology, along with the Department of Homeland Security has prepared phase one of a User's Guide to Video Systems. This is designed to help agencies clarify their user needs in terms from which vendors should be able to develop systems that will meet the application requirements. Finally, the Scientific Working Group on Imaging Technology has published guidelines for systems design. This course, through lecture, supported by handouts, will teach the student about these guidelines and standards in order to help agencies acquire systems that will meet their needs, be eligible for federal funding, and present their needs to vendors in ways that they will understand – if they are not aware of these guides and standards, then you probably should find another vendor.

TOPICS INCLUDE:

- ▶ Processes for describing an application
- ▶ Basics of in-car video requirements and tests
- ▶ Key aspects of video system installation
- ▶ Strengths & weaknesses of video technology
- ▶ Key aspects of video system design
- ▶ Engaging a vendor to establish requirements

Mr. Blitzer is a published author in the field of forensic science and a current or former member of several national committees in the field, including SWGIT, the Video Quality in Public Safety, and the NIJ special committee on in-car video standards.

Credit: 16 hours

Cost: \$520.00

Calibration and Validation of Laboratory Equipment

June 16-17, 2011

Mihran Tuceryan

Using lectures and demonstration, the fundamentals of calibration of several laboratory devices will be reviewed and the means for validating processes will be described. The courts are becoming more and more concerned with these matters, and lawyers are quick to bring in opposing experts if there is any indication that there has been laxity in these regards.

TOPICS INCLUDE:

- ▶ What is validation
- ▶ Basics of calibration
- ▶ Measurement of outputs
- ▶ Chemical analytical devices
- ▶ Mechanical devices
- ▶ What is reliability
- ▶ Calibration using standard samples
- ▶ What is the probability of a correct opinion
- ▶ Optical devices
- ▶ Keeping records and control charts

Mr. Tuceryan has more than a decade of experience, both in academia and the corporate environment. He will involve guest lecturers to cover different aspects of the general topic.

Credit: 16 hours

Cost: \$520.00