foster+freeman, leading manufacturers of forensic science equipment, offer a range of comprehensive and flexible training programs designed to ensure that users are capable of using our products to their maximum potential.

Our current range of courses provide affordable and convenient training on all products across the full foster+freeman range alongside a selection of courses that have been tailored to meet specific application requirements e.g. forensic investigation, immigration control, etc.

The benefits of foster + freeman training are numerous and include:

- Improved system operation
- Learn to use products effectively and improve efficiency
- Training when and where you need it, on-site or at our dedicated training centre
- Training tailored to specific job roles or applications to ensure that course content meets your requirements

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# Training 2014

## Questioned Document Examination

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## CSI and Forensic Evidence

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Questioned Document Examination
TRAINING
Document examination

Forensic handwriting examination

This training will give participants an understanding of the fundamentals of forensic handwriting examination, emphasising the use of best practices techniques.

Participants will learn the fundamentals of handwriting examination, covering the underlying principles and practical methods. The forensic examination of handwritten and handprinted documents and signatures will be covered.

The course is supported throughout by practical exercises to ensure a full understanding is established and participants are welcome to bring their own examples and case studies.

Target group
The course is specifically designed for forensic document examiners with government agencies wishing to enhance their understanding of the fundamentals of forensic handwriting examination to achieve best practice.

Training overview
A structured training programme delivered by qualified trainers will cover the following:

- The history of forensic document examination
- Systems, variations, qualities and features of handwriting
- Standards and processes for comparison
- Handwriting, signatures and forgeries
- Abnormal and disguised handwriting
- Identification of erasures, additions or alterations
- Handwriting examination from electronic images
- Care and handling of questioned documents
- Dealing with fingerprints on documents
- Handwriting opinion evidence and the expert witness
- Note-taking, integrity and the courts

Assessment
Written assessment

Duration
5 days

Modern Techniques of document examination

This training will give participants the recognised best practice skills required to examine a range of questioned documents and to be competent in producing stronger examination reports.

Participants will learn fundamentals, theoretical principals and practical applications of a range of different techniques for document examination, focusing mainly on secure documents (identity documents, currency, etc.).

Where samples will allow, the course will be supported by practical exercises to assist comprehension, and participants are encouraged to bring their own examples and case studies.

Target group
The course is specifically designed for forensic document examiners with government agencies wishing to enhance their understanding of the subject.

Training overview
A structured training programme delivered by qualified trainers will cover the following:

- Document construction and security printing
- A study of print processes, the theory of light and colour
- Document examination process
- Common methods of document abuse
- RAMAN spectroscopy for comparison of different inks
- Accurate note keeping and the continuity chain
- Producing a document examiner’s report

Assessment
Practical assessment

Duration
5 days
Border & Immigration control

Management of border and immigration controls

This training will give participants a good understanding of the functions of immigration controls, the threats they face and the importance of travel and identity documents in the control process.

Training will include a comprehensive examination of the function and operations of immigration controls on both a national and international perspective focusing on the importance of secure travel documentation and of identifying and detecting document abuse. This will include consideration of global (ICAO) standards for travel documents and how these assist the secure facilitation of international travellers through border controls.

Target group
People involved in border and immigration control operations who wish to develop more secure and effective operational practices in their border control procedures.

Training overview
A structured training programme delivered by qualified trainers will cover the following:
- Definition of border and immigration control
- Threats to immigration controls
- Key areas for combating immigration abuse
  - Technology
  - Liaising with overseas authorities on border control
  - The need for skilled border control officers
- The role of travel and identity documents
- International standards for travel and identity documents
- Travel and identity document fraud methods
- The role of immigration control officials in checking the security and validity of travel documents
- Document fraud examination and detection equipment
- National structures within immigration control authorities responsible for travel document security and fraud detection and their importance across the area of law enforcement

Assessment
None

Duration
3 days
By the end of the training, you will have gained the confidence and skills required to use the VSC6000/HS to detect alterations and security features using ultra-violet and visible light sources.

The training will be delivered through a mix of presentations, practical demonstrations and interactive group exercises, and will cover all aspects of currency examination from initial examination of a document for comparison, to saving images and case reporting.

Participants will be given the opportunity to practice examination techniques using the VSC6000/HS system on a variety of samples.

Target group
This training is aimed at people in a currency examination role and will benefit new users to the VSC or users with existing VSC knowledge wanting to refresh their knowledge or practical skills.

Training overview
A structured training programme tailored to your individual needs and led by qualified trainers will cover VSC examination techniques essential to the banking industry:

- Magnification controls
- How to obtain a high quality image
- How to use IR techniques to differentiate between inks
- Examining covert security features using UV illumination
- Understanding the theory of fluorescence
- Revealing raised surface features using oblique lighting
- Viewing watermarks using transmitted light
- How to save, capture and print images
- Techniques to compare 2 images
- Case report management

Training handouts and support documents will be provided. A series of practical assessments will be used to test your understanding of how to operate the VSC6000/HS.

Training content

Introduction to the VSC6000/HS
- Overview of hardware and their functions
- Getting started

How to get a good image
- Magnification and focus
- Camera controls

Light sources and their applications
- For currency and document examination (including background theory)

How to compare images
- Saving images and settings
- Recalling/opening images and settings
- Methods of comparison

Additional examination functions
- Auto examine, automatic image generation from user-defined examination conditions
- Latent Image viewer
- Optical Character Recognition for ICAO-conforming Machine Readable Zones.

Additional VSC features
- Annotations and measurements
- Document Database Viewer (for Keesing databases only)
- Notepad
- Resetting the VSC

Care and maintenance
- Replacing bulbs and fuses
- Cleaning
- Software upgrade procedure

Please note this training does not teach how to detect a forgery; it is aimed at how to operate the VSC6000/HS in order to detect security features for comparisons between questioned and genuine documents.
VSC6000/HS for forensics

By the end of the training, you will be familiar with all functions of the VSC6000/HS including taking spectra of documents for comparison, hyper-spectral imaging, reading barcodes and applying false and pseudo colour modes to infra-red imaging.

The training will be delivered through a mix of presentations, practical demonstrations and interactive group exercises, and will cover all aspects of forensic document examination including the use of all illumination options, false colour and the application of exaggerated spectral changes to assist in IR imaging, measurement and analysis of spectra and hyper-spectral imaging.

Participants will be given the opportunity to practice examination techniques using the VSC6000/HS system on a variety of samples.

Target group
This training is aimed at people in a document examination role and will benefit new users to the VSC or users with existing VSC knowledge wanting to refresh their knowledge or practical skills.

Training overview
A structured training programme tailored to your individual needs and led by qualified trainers will cover VSC examination techniques essential to questioned document examiners:

- Magnification controls
- How to obtain a high quality image
- How to use IR techniques to detect ink alterations
- IR imaging enhancement using false and pseudo colour
- Bandpass and exaggerated spectral change examination
- Measuring and interpreting spectra
- How to save, capture and print images
- Hyper-spectral imaging to assist in IR absorption examination

Training handouts and support documents will be provided.

A series of practical assessments will be used to test your understanding of how to operate the VSC6000/HS

Training content

Introduction to the VSC6000/HS
- Hardware, illumination modes and applications

Light sources and their applications
- For document examination (including background theory)

False and pseudo colour modes
- Exaggerated spectral changes to assist in IR imaging

Microspectroscopy
- Measuring transmission, absorption, reflectance, fluorescence and spectra of all samples

Hyper-spectral imaging
- An advanced technique used to optimise the spectral differences between two inks on a document

Additional VSC features
- Casework Management
- Annotations and measurements
- Notepad
- Resetting the VSC

Care and maintenance
- Replacing bulbs and fuses
- Cleaning
- Software upgrade procedure

Please note this training does not teach how to detect a forgery; it is aimed at how to operate the VSC6000/HS in order to detect security features for comparisons between questioned and genuine documents

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By the end of the training, you will have gained the confidence and skills required to use the VSC6000/HS to detect alterations and security features using ultra-violet and visible light sources.

The training will be delivered through a mix of presentations, practical demonstrations and interactive group exercises, and will cover all aspects of travel document examination from initial examination of a document for comparison, to saving images and case reporting.

Participants will be given the opportunity to practice examination techniques using the VSC6000/HS system on a variety of samples.

Target group
This training is aimed at people in a document examination role within an immigration environment and will benefit both new VSC users and users with existing VSC knowledge wanting to refresh their knowledge or practical skills.

Training overview
A structured training programme tailored to your individual needs and led by qualified trainers will cover VSC examination techniques essential to immigration and border control:

- Magnification controls
- How to obtain a high quality image
- How to detect ink alterations using infra-red
- Examining covert security features using UV illumination
- Understanding the theory of fluorescence
- Revealing raised surface features using oblique lighting
- Viewing watermarks using transmitted light
- How to save, capture and print images
- Techniques to compare 2 images
- Visualising and decoding advanced security features including scrambled indicia (IPI), barcodes and latent images.

Training handouts and support documents will be provided A series of practical assessments will be used to test your understanding of how to operate the VSC6000/HS

Training content

Introduction to the VSC6000/HS
- Overview of hardware and its functions
- Getting started

Obtaining a good image
- Magnification and focus
- Camera controls

Light sources and their applications
- For document examination (including background theory)

Image comparison
- Methods of comparison
- Saving/Recalling images and settings

Additional examination functions
- Auto examine, automatic image generation from user-defined examination conditions
- Latent Image viewer
- Optical Character Recognition for ICAO-conforming Machine Readable Zones.

Additional VSC features
- Annotations and measurements
- Document database viewer
- Notepad
- Resetting the VSC

Care and maintenance
- Replacing bulbs and fuses
- Cleaning
- Software upgrade procedure

Please note this training does not teach how to detect a forgery; it is aimed at how to operate the VSC6000/HS in order to detect security features for comparisons between questioned and genuine documents.

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By the end of the training, you will be able to use the VSC400 to detect alterations and security features using ultra-violet and visible light sources.

The training will be delivered through a mix of presentations, practical demonstrations and interactive group exercises, and will cover skills from initial examination of a document for comparison, to saving images and case reporting.

Participants will be given the opportunity to practice examination techniques using the VSC400 system on a variety of samples.

Target group
This training is aimed at people in a document examination role and will benefit new VSC users and users with existing VSC knowledge wanting to refresh their knowledge or practical skills.

Training overview
A structured training programme tailored to your individual needs and led by qualified trainers will cover all aspects of using the VSC400 to examine documents including:

- Magnification controls
- How to obtain a high quality image
- How to detect ink alterations using infra-red
- Examining covert security features using UV illuminations
- Understanding the theory of fluorescence
- Revealing raised surface features using oblique lighting
- Viewing watermarks using transmitted light
- Decipher latent images and barcodes
- How to save, capture and print images
- Techniques to compare 2 images
- Case report management

Training handouts and support documents will be provided. A series of practical assessments will be used to test your understanding of how to operate the VSC400/HD.

Training content

Introduction to the VSC40/HD
- Overview of hardware and their functions
- Getting started

Obtaining a good image
- Magnification and focus
- Camera controls

Light sources and their applications
- For document examination (including background theory)

Image comparison
- Methods of comparison
- Recalling/opening images and settings

Additional examination functions
- Auto examine, Automatic image generation from user defined examination conditions
- Latent Image viewer
- Scrambled Indicia decoding (IPI security features)
- Barcode Reader
- Optical Character Recognition for ICAO-conforming Machine Readable Zones.

Additional VSC features
- Annotations and measurements
- Document Database Viewer (for Keesing databases only)
- Resetting VSC

Care and maintenance
- Replacing bulbs and fuses
- Cleaning
- Software upgrade procedure

Please note this training does not teach how to detect a forgery; it is aimed at how to operate the VSC40/HD in order to detect security features for comparisons between questioned and genuine documents.
By the end of the training, you will be able to use the VSC40/HD to detect alterations and security features using ultra-violet and visible light sources, covering skills from initial examination of a document for comparison, to saving images and case reporting.

The training will be delivered through a mix of presentations, practical demonstrations and interactive group exercises, and will provide participants with the opportunity to have hands-on practice operating the VSC/40HD.

Target group
This training is aimed at people in a document examination role and will benefit new VSC users and users with existing VSC knowledge wanting to refresh their knowledge or practical skills.

Training overview
A structured training programme tailored to your individual needs and led by qualified trainers will cover all aspects of using the VSC40/HD to examine documents including:

- Magnification controls
- How to obtain a high quality image
- How to detect ink alterations using infra-red
- Examining covert security features using UV illuminations
- Understanding the theory of fluorescence
- Revealing raised surface features using oblique lighting
- Viewing watermarks using transmitted light
- Decipher latent images and barcodes
- How to save, capture and print images
- Techniques to compare 2 images
- Case report management

Training handouts and support documents will be provided. A series of practical assessments will be used to test your understanding of how to operate the VSC40/HD.

Training content

**Introduction to the VSC40/HD**
- Overview of hardware and their functions
- Getting started

**Obtaining a good image**
- Magnification and focus
- Camera controls

**Light sources and their applications**
- For document examination (including background theory)

**Image comparison**
- Methods of comparison
- Recalling/opening images and settings

**Additional examination functions**
- Auto examine, automatic image generation from user defined examination conditions
- Latent image viewer
- Scrambled Indicia decoding (IPI security features)
- Barcode Reader
- Optical Character Recognition for ICAO-conforming Machine Readable Zones.

**Additional VSC features**
- Annotations and measurements
- Document database viewer (for Keesing databases only)
- Resetting VSC

**Care and maintenance**
- Replacing bulbs and fuses
- Cleaning
- Software upgrade procedure

Please note this training does not teach how to detect a forgery; it is aimed at how to operate the VSC40/HD in order to detect security features for comparisons between questioned and genuine documents.
By the end of the training, you will be able to use the VSC-QC1 to quickly authenticate security features and detect document abuse using all the unit’s features.

The training will be delivered through a mix of presentations, practical demonstrations and interactive group exercises, and will provide participants with a full understanding of all the functions and capabilities the VSC-QC1 has to offer and the confidence and skills to use the VSC-QC1 in quick document checking.

Target group
This training is aimed at people in a document examination role and will benefit new VSC-QC1 users wishing to use the instrument to its full potential.

Training overview
A structured training programme tailored to your individual needs and led by qualified trainers will cover all aspects of using the VSC-QC1 to examine travel documents:

- Hardware set-up, start-up procedure and trouble-shooting
- Manually triggering an examination
- Operating all the light sources
- Interrogation of an MRZ
- Comparing chip-stored personal image with document
- Saving images
- Barcode Reader
- Document Database functions
- IPI decoder

Training handouts and support documents will be provided.

Please note this is not a document examination course; training is on how to operate the VSC-QC1 to aid in the authentication of questioned documents.
ECCO for document examination

By the end of the training you will be familiar with all functions of the ECCO Laser Induced Breakdown Spectrometer.

The training will be delivered through a mix of presentations, practical demonstrations and interactive group exercises, and will include calibration procedures, recording spectra, and analysis and interpretation of obtained results.

Participants will be given the opportunity to have hands-on practice operating the ECCO.

Target group
This training is aimed at trace evidence and questioned document examiners and will benefit new ECCO users as well as those users with previous experience of operating the ECCO.

Training overview
A structured training programme tailored to your individual needs and led by qualified trainers will cover all aspects of using the ECCO and interpreting results:

- Theory of Laser Induced Breakdown spectroscopy
- Calibration of the instrument
- Measuring spectra with the ECCO
- Qualitative interpretation of results
- Semi-quantitative interpretation of results

Foram for document examination

By the end of the training you will be familiar with all functions of the FORAM Raman Spectrometer.

The training will be delivered through a mix of presentations, practical demonstrations and interactive group exercises, and will include calibration procedures, recording spectra, and analysis and interpretation of obtained results.

Participants will be given the opportunity to have hands-on practice operating the FORAM.

Target group
This training is aimed at trace evidence and questioned document examiners and will benefit new FORAM users as well as those users with previous experience of operating the FORAM.

Training overview
A structured training programme tailored to your individual needs and led by qualified trainers will cover all aspects of using the FORAM and interpreting results:

- Theory of Raman spectroscopy
- Calibration of the instrument
- Measuring Raman spectra
- Interpretation of results
- Creation and searching of databases
CSI & Forensic Evidence
TRAINING
Crime Scene investigation

Crime Scene Investigation & Evidence Recovery

This training will give participants the recognised best practice skills required to be a crime scene investigator.

The training will include Standard Operating Procedures for the forensic examination of various types of crime scenes such as burglary, offences against the person and vehicle crime, emphasising best practice in the recovery of evidence.

The course is supported throughout by numerous realistic practical exercises to ensure a full understanding is established.

Target group
Those new to the role of crime scene investigation wishing to achieve best practice in evidence recovery at all types of crime scene.

Training overview
A structured training programme delivered by qualified trainers will cover the following:

- Health and safety at crime scenes
- Identification, recovery and recording of fingerprints
- Identification, recovery and recording of physical evidence
- Locating and enhancing footwear marks
- Recovery of crime scene stains
- DNA recovery and preservation
- Packaging, labelling and storage of exhibits
- Basic scene of crime photography
- Note-taking, integrity and continuity statements

Assessment
Practical

Duration
8 days

Crime Scene Management

This training will give participants the recognised best practice skills required to manage all aspects of scene examination and to be competent in advising a scene of crime team and specialists.

The training will include Standard Operating Procedures appropriate to major crime scene examination ensuring that an optimal forensic strategy is adopted that maximises evidence recovery.

The course is supported throughout by numerous realistic practical exercises to ensure a full understanding.

Target group
Those with a basic level of Scene of Crime knowledge and supervisory police officers wishing to develop best practice in crime scene management from a forensic aspect.

Training overview
A structured training programme delivered by qualified trainers will cover the following:

- Health and safety considerations
- Establishing crime scene security
- Scene preservation
- Minimisation of contamination and destruction of evidence
- Maximising the potential of the forensic evidence available
- Packaging and labelling of exhibits
- Managing people within the crime scene
- Liaising with senior officers, scientists and other specialists
- Completion of scene logs and other relevant documentation

Assessment
Practical

Duration
2 days
Fingerprint evidence

Fingerprint identification and chemical treatments

This training will enable participants to understand and apply best practice skills and techniques involved in fingerprint examination, chemical enhancement and crime scene examination.

This course will allow participants to explore theoretical aspects of the history, biology and identification of fingerprints.

During numerous realistic practical exercises participants will use state of the art retrieval and enhancement techniques to gain familiarity in methods of development and enhancement.

**Target group**
New starters or those seeking to broaden their knowledge of fingerprint development and comparison.

**Training overview**
A structured training programme delivered by qualified trainers will cover the following:
- History of fingerprinting
- Life-cycle of fingerprint creation
- Theory of fingerprint pattern recognition and identification
- Taking of an evidentially-usable set of inked fingerprints
- Fingerprint comparison using both fingerprint forms and crime-scene marks
- Chemical treatment for recovering latent fingerprints
- Chemical treatment for enhancing latent fingerprints
- Fluorescent light sources
- Basic photography of developed fingermarks

**Assessment**
Written and practical

**Duration**
10 days

Fingerprint retrieval and enhancement

This training will enhance and expand a participants basic knowledge of chemical treatments and physical development of latent finger and palm prints at a crime scene and in a laboratory.

This course will allow participants to develop an integrated approach to the examination of fingerprints using photography and chemical treatments to maximise their evidential value.

This course is supported throughout by numerous realistic practical exercises to ensure a full understanding is established.

**Target group**
Participants will have had experience in an operational environment and be seeking to expand their knowledge of chemical treatments and fingerprint development.

**Training overview**
A structured training programme delivered by qualified trainers will cover the following:
- Safe and effective use of high intensity light sources to visualise and photograph crime scene marks
- Consideration of conflicting evidence types and their impact upon forensic examinations
- Selection and use of appropriate chemical treatments
- The safe use of chemical treatments at crime scenes
- The implications of health and safety at crime scenes
- Scene and exhibit cleansing with a view to safe-handling and decontamination post-examination

**Assessment**
Practical

**Duration**
5 days
This training will enable participants to develop the skills required to prepare statements and to testify as a fingerprint expert witness.

Training will cover latent fingerprint development, recovery, comparison and courtroom testimony. As well as dealing with latent fingerprint processing and recovery techniques, an emphasis will be placed on practical experience in evidence preparation and presentation.

Target group
Participants will have had experience in an appropriate operational environment and will be aiming to give evidence in a court of law.

Training overview
A structured training programme delivered by qualified trainers will cover the following:

- The development and recovery of a finger or palm mark at a crime scene
- The identification of a crime scene mark against a fingerprint record
- The principles of statement writing and maintaining the continuity of evidence
- Preparation of marked-up photographic enlargements for courtroom presentation
- Preparation and presentation of statements of evidence
- Experience of a simulated court

Assessment
Practical

Duration
5 days
Forensic photography

Photography & Digital Imaging fundamentals

This training will give participants an understanding of the fundamentals behind photography, digital imaging, lighting and human vision emphasising best practice in the forensic context.

This course is specifically designed for anyone involved in preparing forensic images who wishes to learn photography and lighting methods including how to record evidence digitally and enhance important features.

The course is supported throughout by numerous realistic practical exercises to ensure a full understanding.

Target group
This course will be of interest to anyone wishing to improve their understanding of forensic digital imaging.

Training overview
A structured training programme delivered by qualified trainers will cover the following:

- Why we take photographs
- Using the camera to extend the range of human vision
- Basic photography theory and technique
- Digital image acquisition and properties of digital images
- Lighting techniques
- Colour filtration and fluorescence
- Introduction to crime scene photography
- Photography of fingerprints and crime scene marks
- Standard Operating Procedures of imaging including workflow, documentation and archiving

Assessment
Practical
Duration
2 days

Forensic Photography at the crime scene

This training will enable participants to produce an accurate high quality photographic record of a crime scene.

The training will include the major aspects of crime scene photography including general scene shots, close-ups of evidence and the production of examination quality images of fingerprints, blood stains and other marks.

The course is supported throughout by numerous realistic practical exercises to ensure a full understanding is established.

Target group
This course will be of interest to anybody involved in the photographic recording of crime scenes and the evidence found there.

Training overview
A structured training programme delivered by qualified trainers will cover the following:

- Initial crime scene photography
- Techniques for lighting large areas
- Lighting techniques for crime scene marks and blood spatter
- Photographic recording of other evidence in-situ
- Examination quality photography of fingerprints, footwear marks, tyre tracks and other marks
- Use of colour and metric scales
- Note taking and record keeping

Assessment
Practical
Duration
3 days
This training will enable participants to optimise the capture and enhancement of images of crime scene marks to maximise their evidential potential.

Training will include the use of lighting and photographic techniques for the recovery of fingerprints, footwear marks, tyre tracks, tool marks and other scene of crime evidence. This is complemented by the application of digital enhancement of captured images for forensic purposes.

The course is supported throughout by numerous realistic practical exercises to ensure a full understanding.

**Target group**
Anybody involved in the photographic recording of forensic evidence and the enhancement of their images who wishes to develop their skills further.

**Training overview**
A structured training programme delivered by qualified trainers will cover the following:

- Lighting techniques including copy-lighting, oblique lighting, diffuse lighting, cross-polarised lighting and specular reflection
- Use of coloured filters for contrast enhancement
- Use of forensic light sources for fluorescence photography
- Photography of marks on commonly encountered surfaces
- Photography of untreated and chemically treated marks
- Photography of marks in blood
- Image enhancement techniques
- Standard Operating Procedures in the processing and documentation of image enhancements

**Assessment**
Practical

**Duration**
3 days
By the end of the training you will have learnt the techniques required to photograph fingerprints on a wide range of surfaces.

The training will be delivered through a mix of presentations, practical demonstrations and interactive group exercises, and will cover all aspects of fingerprint capture and enhancement including how to effectively illuminate the sample and perform basic enhancements to reduce background interference and improve detail within the fingerprint before printing or outputting at either 1:1 or enlarged.

Participants will be given the opportunity to practice techniques using the DCS 4 system on a variety of samples.

Target group
This training is aimed at fingerprint photographers and will benefit new users to the DCS or users with existing DCS knowledge wanting to refresh their knowledge or practical skills.

Training overview
A structured training programme tailored to your individual needs and led by qualified trainers will cover DCS capture, examination and enhancement techniques:

- Principles of photography
- Lighting techniques
- Digital enhancement of images
- Printing and outputting images at 1:1 and enlarged
- Backing up images and case management
- Produce images suitable for AFIS

Training handouts and support documents will be provided. A series of practical assessments will be used to test your understanding of how to operate the DCS 4.

Training content

System set-up & overview
- Overview of DCS-4
- Getting started, setting up camera, lens, printer and users

How to capture an image
- Lighting techniques (visible and fluorescence)
- Basics in photography including focusing, depth of field and exposure settings (aperture, shutter speed and ISO)
- Calibration to produce 1:1 images

Image enhancement
- Series of automatic enhancement software toolboxes
- Contrast/Brightness/Gamma adjustment
- Contrast histogram
- Background removal

DCS-4 lighting techniques
- Ring light, surface light for textured surfaces (e.g. paper, cardboard, etc)
- Gooseneck light, fully adjustable dual angled lighting
- Dark field light, 360° low angled oblique lighting for 3D indented fingermarks
- Paddle light, used as a back light for fingerprint lifts, clear plastics and glass plates or for specular illumination for reflective and curved surfaces
- Line light (if applicable), linear oblique light for fingerprints in dust, raised or indented fingerprints and gel lifts

Additional DCS-4 features
- Printing or outputting to other destinations (email, AFIS, etc.)
- Audit trails detailing image processing from capture to printout
- Image validation, authentication of original image
- Case management including image archiving
- Producing enlarged images
- Photographic wizard (if applicable), guidance on chemical processing and photography
Having learnt the basics during the DCS introductory training, advanced training allows you to expand your existing photography knowledge and to use advanced image enhancement techniques to achieve better images.

The training will be delivered through a mix of presentations, practical demonstrations and interactive group exercises, and will cover the advanced aspects of fingerprint capture and enhancement including how to use the camera hand-held should you need to photograph fingerprints at the crime scene and acquire the skills and confidence to present digital imaging in court.

Participants will be given the opportunity to practice techniques using the DCS 4 system on a variety of ‘difficult’ samples.

**Target group**

This training is aimed at existing DCS users that have previously completed the DCS introductory training or that have at least 6 months DCS experience. The training will also benefit DCS users that require crime scene photography skills.

**Training overview**

A structured training programme tailored to your individual needs and led by an internationally renowned expert in forensic digital photography, will cover advanced DCS capture, examination and enhancement techniques:

- Maximising results by improving photography and lighting techniques
- Advanced background removal enhancement techniques
- Using the camera hand-held to photograph large exhibits or exhibits at the crime scene
- Presenting digital imaging in court

Training handouts and support documents will be provided.

A series of practical assessments will be used to test your understanding of how to operate the DCS 4.

**Training content**

**How to capture an image**

- Understanding cross-polarization lighting techniques and its applications
- Maximising the use of colour filters with digital enhancement
- Specular lighting for curved surfaces and shiny enhancement including plastic, metals and mirrors
- Surface lighting for samples such as textured surfaces, papers, ninhydrin and adhesive tapes
- Low angled side lighting for fingerprints in blood, adhesive tapes and cast impressions
- Side lighting for curved surfaces
- Back lighting for fingerprint lifts, clear plastic and glass plates
- Reflective UV photography using long wave light
- Fluorescent lighting for various chemical development techniques

**Photography techniques**

- How to maximise depth of field with the restrictions of lens diffraction with digital cameras
- Achieving correct image exposure - ISO, aperture and shutter speed
- Using the camera hand held
- Understanding digital noise and how to reduce it
- The use of shift and tilt lenses, theory and examples

**Image enhancement**

- Removing regular repetitive background patterns using Fourier Transforms
- Removing irregular background patterns
- Digital filters, how they work and how to maximise their use

**Other**

- Maximising the quality of results from fluorescent fingerprint images
- Understanding Image Authentication
- Understanding file formats - jpg, jpg2000, TIFF, bmp, RAW etc.
- Court room presentation of digital imaging
By the end of the training, you will be familiar with all the functions of the SUPERfume and the cyanoacrylate fuming process.

The training will include an introduction to the science behind cyanoacrylate fuming and the methods used to control the processes main factors to ensure good fingerprint development.

Instruction will also be provided on operating the SUPERfume in automatic and manual cycles, health and safety guidance, and the general care and maintenance of the system.

Where possible, participants will be given the opportunity to perform a live cycle in a controlled environment.

**Target group**
This training is aimed at crime scene examiners or those people working in a forensic laboratory who want to develop fingerprints.

**Training overview**
A structured training programme tailored to your individual needs and led by qualified trainers will cover the following:

- SUPERfume health and safety precautions
- System overview and their functions
- Performing a fuming cycle
- Care and maintenance
- Emergency procedures

Training handouts and support documents will be provided.

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**MVC/D for laboratory cyanoacrylate fuming**

By the end of the training, you will be familiar with all the functions of the MVC cabinets and the cyanoacrylate fuming process (including Polycyano).

The training will include an introduction to the science behind cyanoacrylate fuming, the principles of PolyCyano treatment and how it differs from traditional Cyanoacrylate, and the methods used to control the processes main factors to ensure good fingerprint development.

Instruction will also be provided on operating MVC/D cabinets in automatic and manual cycles, health and safety guidance, and the general care and maintenance of the system.

Participants will be given the opportunity to perform live cycles on a variety of test exhibits.

**Target group**
This training is aimed at people working in a forensic laboratory, specifically those wishing to develop fingerprints on non-porous surfaces.

**Training overview**
A structured training programme tailored to your individual needs and led by qualified trainers will cover the following:

- MVC/D health and safety precautions
- Cabinet overview
- Performing a fuming cycle
- Control panel
- Care and maintenance
- Emergency procedures

Training handouts and support documents will be provided.
ECCO  for trace evidence analysis

By the end of the training you will be familiar with all functions of the ECCO Laser Induced Breakdown Spectrometer. The training will be delivered through a mix of presentations, practical demonstrations and interactive group exercises, and will include calibration procedures, recording spectra, and analysis and interpretation of obtained results. Participants will be given the opportunity to have hands-on practice operating the ECCO.

Target group
This training is aimed at trace evidence and questioned document examiners and will benefit new ECCO users as well as those users with previous experience of operating the ECCO.

Training overview
A structured training programme tailored to your individual needs and led by qualified trainers will cover all aspects of using the ECCO and interpreting results:
- Theory of Laser Induced Breakdown spectroscopy
- Calibration of the instrument
- Measuring spectra with the ECCO
- Qualitative interpretation of results
- Semi-quantitative interpretation of results

Foram  for trace evidence analysis

By the end of the training you will be familiar with all functions of the FORAM Raman Spectrometer. The training will be delivered through a mix of presentations, practical demonstrations and interactive group exercises, and will include calibration procedures, recording spectra, and analysis and interpretation of obtained results. Participants will be given the opportunity to have hands-on practice operating the FORAM.

Target group
This training is aimed at trace evidence and questioned document examiners and will benefit new FORAM users as well as those users with previous experience of operating the FORAM.

Training overview
A structured training programme tailored to your individual needs and led by qualified trainers will cover all aspects of using the FORAM and interpreting results:
- Theory of Raman spectroscopy
- Calibration of the instrument
- Measuring Raman spectra
- Interpretation of results
- Creation and searching of databases
By the end of the training, you will be familiar with all functions of the GRIM 3 module and associated Glass Fragment Analyser software.

The training will be delivered through a mix of presentations, practical demonstrations and interactive group exercises and will include phase microscope theory and application, calibration procedures, sample preparation of glass fragments, recording refractive index measurements, and analysis and interpretation of obtained results. Not only will you be confident using the system for examinations but you will also learn how to configure it to suit your own preferences.

Training handouts and support documents will be provided.

**Target group**
This training is aimed at trace evidence examiners and will benefit both new ffTA GRIM 3 users and existing GRIM users.

**Training overview**
A structured training programme tailored to your individual needs and led by qualified trainers will cover all aspects of using the ffTA GRIM 3 module:

- Theory of glass evidence and refractive index measurements
- Introduction and theory of phase contrast microscopy
- Preparation of glass fragment samples
- Calibration of the instrument
- Basic interpretation of results
- Advanced interpretation of results using statistical grouping methods

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**Polarised Light Microscopy**

By the end of the training, you will be familiar with all functions of the ffTA Polarised Light Microscopy module gaining the ability to identify a synthetic fibre based on the width of the fibre and its birefringence.

The training will be delivered through a mix of presentations, practical demonstrations and interactive group exercises. Participants will gain the ability to operate the microscope to provide cross polarisation, save images captured with a microscope, make measurements on the image and the identification of a synthetic fibre.

Training handouts and support documents will be provided.

**Target group**
This training is aimed at trace evidence examiners and will benefit new ffTA users.

**Training overview**
A structured training programme tailored to your individual needs and led by qualified trainers will cover all aspects of using the ffTA Polarised Light Microscopy module:

- Introduction to Polarised Light Microscopy and birefringence
- Application of a Polarised Light Microscope
- Capturing an image from the microscope
- Recording distance measurements of a sample
- Interpretation of the birefringent result
- Identification of synthetic (man-made) fibres
ffTA for trace evidence analysis

Image Processing

By the end of the training, you will be familiar with all functions of the ffTA Image Processing module. This will include saving images, making annotations and measurements, and comparing images captured with the microscope.

The training will be delivered through a mix of presentations, practical demonstrations and interactive group exercises. Participants will gain the ability to operate all functions of the ffTA image processing software effectively in capturing and annotating images of trace evidence materials.

Training handouts and support documents will be provided.

Target group
This training is aimed at people in a trace evidence examination role and will benefit new ffTA users.

Training overview
A structured training programme tailored to your individual needs and led by qualified trainers will cover all aspects of using the ffTA Image Processing module:

- Introduction to microscopy
- Capturing an image from the microscope
- Adding annotations to an image
- Recording distance and area measurements of a sample
- Manual calibration of the instrument

Foram X3

Raman Spectroscopy

By the end of the training, you will be familiar with all functions of the ffTA Foram X3 module. This will include calibration procedures, capturing fluorescent images, recording spectra, and analysis and interpretation of obtained results.

The training will be delivered through a mix of presentations, practical demonstrations and interactive group exercises. Participants will gain the ability to operate all functions of the ffTA Foram X3 from calibration of the instrument to recording measurements and interpretation of results.

Training handouts and support documents will be provided.

Target group
This training is aimed at trace evidence and document examiners and will benefit new ffTA Foram X3 users as well as existing users of the Foster + Freeman Foram.

Training overview
A structured training programme tailored to your individual needs and led by qualified trainers will cover all aspects of using the ffTA Foram X3 multi-wavelength Raman spectrometer:

- Theory of Raman spectroscopy
- Calibration of the instrument
- Measuring the Raman spectra
- Interpretation of results using statistical tests
- Creation of user databases
- Searching against databases
 Fluorescence Imaging & Spectroscopy

By the end of the training, you will be familiar with all functions of the ffTA fluorescence imaging and spectroscopy module. This will include calibration procedures, capturing fluorescent images, recording spectra, and analysis and interpretation of obtained results.

The training will be delivered through a mix of presentations, practical demonstrations and interactive group exercises. Participants will gain the ability to operate all functions of the ffTA fluorescence imaging and spectroscopy module from capturing images using the microscope to calibration of the instrument, recording measurements and interpreting results.

Training handouts and support documents will be provided.

UV-Vis-IR Microspectroscopy

By the end of the training, you will be familiar with all functions of the ffTA microspectrometer. This will include calibration procedures, recording spectra, and analysis and interpretation of obtained results.

The training will be delivered through a mix of presentations, practical demonstrations and interactive group exercises. Participants will gain the ability to operate all functions of the ffTA microspectrometer from calibration of the instrument to recording measurements using both a transmitted and incident light source and interpretation of results.

Training handouts and support documents will be provided.

Target group
This training is aimed at people in a biological laboratory or employed in a trace evidence or document examination role and will benefit new ffTA users wishing to use the instrument to its full potential.

Training overview
A structured training programme tailored to your individual needs and led by qualified trainers will cover all aspects of using the ffTA for fluorescence imaging and spectroscopy applications:

- Theory of fluorescence and understanding of fluorescence microscopy
- Capturing fluorescence images
- Calibration of the instrument
- Measuring fluorescence spectra
- Interpretation of results

Target group
This training is aimed at trace evidence and document examiners and will benefit new ffTA microspectrometer users.

Training overview
A structured training programme tailored to your individual needs and led by qualified trainers will cover all aspects of using the ffTA UV-Vis-IR microspectrometer:

- Theory of light transmission and reflectance
- Calibration of the instrument
- Basic interpretation of results
- Interpretation of results using statistical grouping methods
- Objectively determining the colour of a sample using the CIE colour space
By the end of the training, you will have the ability to use SICAR to effectively create new records, code them and carry out searches using the software’s in-built tools, as well as identifying marks and linking records to one another, and to extract vital information for use in case reporting.

The training will be delivered through a mix of presentations, practical demonstrations and interactive group exercises, and will provide participants with the opportunity to practice using the software using provided samples and personal casework if available.

Target group
This training is aimed at people in a footwear and tyre mark examination role and will benefit new SICAR users.

Training overview
A structured training programme tailored to your individual needs and led by qualified trainers will cover all aspects of shoe print and tyre mark identification:

- Creating new records (Crime/Suspect/Reference), including importing of images from a variety of devices.
- Assigning a coding profile to each record
- Searching the SOLEMATE™ and TREADMATE™ reference databases, using the Browse and Coding functions
- Linking records together, identifying, examining and deleting links
- Output of information, printing out report and copying information to the clipboard

Training handouts and support documents will be provided.

A series of optional case scenarios designed to utilise all the skills learnt during the training will test your ability to search and identify shoe prints/tyre marks using SICAR.

Training content

Introduction to SICAR
- Structure of SICAR
- Layout of SICAR application
- Using the SICAR application
- Theory of use

Creating records
- Adding information into data fields and notes section
- Adding images to the record
- Creating multiple records
- Adding annotations
- Using the SICAR image manipulation tools

Coding records
- Coding using shapes, brand logos and text
- Editing, saving and reviewing coding steps
- Guidelines for coding

Searching records
- Searching by browsing
- Matchlists
- Searching by matching coding steps
- Integrated coding and searching

Linking records
- Identities
- Links
- Examining and deleting links

Output
- Creating, tailoring and printing reports
- Copy text and image data onto the computer clipboard, for use within other Windows-based software (e.g. MS Word, MS Paint, Wordpad, etc)

Please Note: Neither this training, nor the SICAR software, equips the user with the ability to definitively identify a person’s footwear or tyre mark from a scene of crime record (e.g. sizing tools, damage patterns, etc.); rather it provides information about possible identification of footwear and/or tyre brand and model, by comparing coding details between the crime scene or suspect record and the reference records.
By the end of the training, you will have the ability to use the more advanced features within SICAR to effectively tailor the system to their needs, as well as explore the more in-depth features of the system such as the Occurrence Counter.

The training will be delivered through a mix of presentations, practical demonstrations and interactive group exercises, and will provide participants with the opportunity to practice using the software using provided samples and personal casework if available.

Target group
This training is aimed at people in a footwear and tyre mark examination role with at least 6-12 months continued use of the software or SICAR users who oversee the Administrative running of a SICAR system.

Training overview
A structured training programme tailored to your individual needs and led by qualified trainers will cover the advanced aspects of shoe print and tyre mark identification:

- Creating, coding, searching and linking records
- Using tailored Matchlists
- Using the Occurrence Counter to form statistics
- Explaining the different versions SICAR (Database Viewer, Data Entry Station, etc.)
- Creating a SICAR network
- Exploring system design
- Investigating the Administrator tool

Training handouts and support documents will be provided.

Additional time will be spent focussing on specific aspects of the system based upon your requirements.

Please Note: Neither this training, nor the SICAR software, equips the user with the ability to definitively identify a person’s footwear or tyre mark from a scene of crime record (e.g. sizing tools, damage patterns, etc.); rather it provides information about possible identification of footwear and/or tyre brand and model, by comparing coding details between the crime scene or suspect record and the reference records.

Training content

Review of SICAR Introductory Training
- Review of coding, searching, matching and identifying shoe and tyre marks

Matchlists
- Saving a matchlist
- Manipulating a matchlist

Advanced features
- Review of links trees
- Using the occurrence counter
- Record manipulation
- Tailoring the printout

The administrator tool
- The set-up
- Tailoring the administrator to your individual needs
- Organisation and management of databases
- Viewing licenses (if applicable)
- Record manipulation
- Generation of statistics
- Faulty databases

Work through casework
- See how SICAR can be used quickly and effectively in the identification of marks from current, as well as retrospective, cases
- Repeat case scenarios
Personnel Product Training

Foster + Freeman has four fully trained and experienced personnel available to carry out installations and provide training on the company’s range of products either at our offices in Evesham or at the customer site, whether in the UK or throughout the rest of the world. They also attend exhibitions and conferences, and provide equipment demonstrations.

Foster + Freeman’s training personnel are more than just knowledgeable users of the equipment. They are actively involved in product development from discussing ideas with users through the research stage to product testing.

They are subsequently responsible for writing product manuals, applications notes, and health and safety guidance to support each product.

The result is that these training personnel have genuine, in-depth technical knowledge of the product ranges and their capabilities, so you can be confident that you are being trained by an expert.

It is often the case that those with knowledge cannot effectively share that knowledge so Foster + Freeman like to ensure that their training personnel are fully capable of delivering the quality training in which you have invested.

All Foster + Freeman product trainers have achieved Level 3 Award in Learning and Development, a nationally-recognised qualification delivered by Reed Business School in partnership with the American Society for Training and Development (ASTD) and Education Development International (EDI).

The combination of intimate product knowledge and an understanding of how to pass on that knowledge to you places them in the ideal position to deliver exceptional training.

Dan Freeman

Dan (BSc (Honours) Forensic Science) started at Foster + Freeman in product design, manufacture and quality assurance. He is trained in the process of glass trace evidence analysis from laboratory work to the interpretation and reporting of results, and has previously carried out internal research projects to establish best practices for the application of new fingerprint technologies including Polycyano UV and Thermal Fingerprint Development.

Nicola Freeman

Nicola has a BSc (Honours) degree in Forensic Science. She was previously a Clinical Trials Technician in charge of running a laboratory for processing, packing and shipping diagnostic specimens for pharmaceutical research. At Foster and Freeman she specialises in delivering training on document and fingerprint examination products. She has completed the Fingerprint Evidence Recovery and Recording Techniques course at UK National Policing Improvement Agency training school.

Simon Horswell

Simon is a former Immigration Officer and Specialist Document Examiner. He previously worked with the UK Border Agency, most recently in their National Document Fraud Unit. This is the UK’s centre of expertise in the field of document examination, offering expert opinion on the authenticity of secure identity documents. During his time at NDFU, Simon’s main role was as an expert document examiner and expert witness, providing both written and oral expert testimony to courts.

Paul White

Paul has a BSc (Honours) degree in Biological Sciences and, prior to joining Foster + Freeman, put this to practical use working as a Food Microbiologist. His current expertise is in footwear and tyre mark analysis and he has been involved in developing and improving SICAR almost since its introduction to the company’s product base.

In 2012 Foster + Freeman Product Training personnel provided 87 training sessions over 234 days in a total of 36 different countries ranging from Sweden, Russia and Azerbaijan to Angola, Singapore, Hong-Kong and Argentina.
Personnel Application Training

Foster + Freeman Application Specific Training courses are compiled and delivered by expert trainers with international reputations and many years’ practical experience in their subject.

Barrie Warburton
Barrie Warburton has had over 30 years experience in one of the UK’s top provincial Police Forces. Performing duties within the CSI department and intelligence units for over 22 years, he gained expert knowledge in crime scene management and the use of forensic intelligence as an investigative tool to support volume and major criminal investigations.

Charlie Stevens
Charlie Stevens has had nearly 40 years service with the United Kingdom Border Agency (UKBA) and has worked extensively in all areas of immigration control, in particular the front line border control at the UK’s major airports Heathrow and Gatwick, and at many sea ports. He has also had immigration postings to British Diplomatic posts abroad in India and Pakistan.

David Goodwin
David is a fully qualified Fingerprint Examiner, Crime Scene Examiner and Crime Scene Manager as well as being FERRT (Forensic Evidence Recovery and Retrieval Techniques) trained. He has experience in preparing and presenting expert fingerprint evidence in courts of all types.

F.L. ‘Jim’ Lee, Jr.
Jim Lee has 30 years experience as an examiner of questioned documents with the U.S. Army Criminal Investigation Lab (USACIL), State of Florida Lottery and in private practice. He is certified by, and a Diplomate of, the American Board of Forensic Document Examiners and a member and past-Secretary of the American Society of Questioned Document Examiners.

John Smith
John Smith is one of the UK’s leading experts in the area of forensic imaging, with over ten years experience working for the major forensic science providers including, the Serious Crime Unit of the Forensic Science Service and LGC Forensics. He has previously provided training to organisations including the UK Home Office, Lausanne University and New South Wales Police.

Simon Horswell
Simon Horswell is a former Immigration Officer and Specialist Document Examiner specialising in identity document verification and document fraud training. He has over a ten years’ experience working with the UK Border Agency, most recently in their National Document Fraud Unit (NDFU).
Booking Information

To register your interest in Foster + Freeman Training please contact:

email: sales@fosterfreeman.com
telephone: +44(0) 1386 768 050

For enquiries from Canada or the US please contact:

email: usoffice@fosterfreeman.com
telephone: 888 445 5048