

# Technical Bulletin: The UKAS Summary Forensic Master Schedule

04 August 2022

The Forensic Science Regulator Act (2021) requires the Forensic Science Regulator (FSR) to prepare and publish a code of practice (the Code) relating to forensic science activities in England and Wales. The Code will be made up of three elements:

- the core code that will be based on the current codes of practice and conduct
- the definitions of forensic science activities (FSA)
- the appendices to the current codes of practice and conduct

The UKAS Summary Forensic Master Schedule (USFMS) has been produced by UKAS to assist organisations to connect the definitions within the FSA, as detailed in the consultation draft of the Code which is subject to change, and the related activities that they conduct. This in turn allows comparison of their current scope of accreditation as detailed on their UKAS Schedule of Accreditation with the FSAs defined in the consultation draft of the Code.

The entries on the USFMS are detailed under the FSA headings, these are listed in the same order as within the consultation draft of the Code. Where there is currently no requirement for any accreditation for an FSA as defined in the consultation draft of the Code, this activity has not been listed on the USFMS.

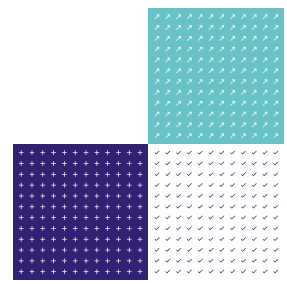
The layout of the USFMS takes the same format as a UKAS Schedule of Accreditation, in particular the use of the three columns detailing the 'Materials/Products tested', 'Type of test/Properties measured/Range of measurement', and 'Standard specifications/ Equipment/Techniques used'. However the level of detail listed in the USFMS is not as great as that contained within an organisation's UKAS Schedule of Accreditation, as the latter will include more information around the specific method / technique / equipment utilised and the materials / products to be tested.

Where UKAS has yet to grant any accreditation for an FSA, e.g. Forensic examination of sexual offence complainants, the entry on the USFMS currently indicates 'To be determined' as this will be considered as part of an associated development project for accreditation.

It should be noted that changes are planned to the current wording used on UKAS Schedules of Accreditation for some forensic activities, once completed this document will be updated in the future to reflect these changes.

If there are any queries in relation to the UKAS Summary Forensic Master Schedule then please contact your Assessment Manager, or Katherine Monnery at

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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
<b>INCIDENT SCENE EXAMINATION</b>		
Volume Crime Major Crime	Assessment, Forensic Strategy Setting, Location, Identification, Recovery, Recording (including general photography), Selecting, Examination and Interpretation of Physical Material and Associated Items from Scenes of Crime for Forensic Purposes	
Body Fluids	Location, recovery, and presumptive testing	<ul style="list-style-type: none"> <li>- Visual examination</li> <li>- Swabbing, taping, cutting etc.</li> <li>- Chemical tests</li> </ul>
Blood	Identification, interpretation and recording of blood patterns (BPA) on items examined at the scene	<ul style="list-style-type: none"> <li>- Visual examination</li> </ul>
Footwear / Toolmarks	Location, enhancement, and recovery	<ul style="list-style-type: none"> <li>- Chemical and Physical enhancement techniques</li> <li>- Lifting / casting techniques</li> <li>- Visual and lighting enhancement techniques</li> <li>- Digital capture / photography</li> </ul>
Particulate Trace Materials	Location and recovery	<ul style="list-style-type: none"> <li>- Visual examination</li> <li>- Taping / Forceps</li> </ul>
Friction Ridge Detail	Location and Enhancement of fingermarks and palm marks, plantar marks	<ul style="list-style-type: none"> <li>- Chemical and Physical enhancement techniques</li> <li>- Lifting techniques</li> <li>- Visual and lighting enhancement techniques</li> <li>- Digital capture / photography</li> </ul>
<b>FORENSIC EXAMINATION OF SEXUAL OFFENCE COMPLAINANTS</b>		
To be determined		
<b>HUMAN BIOLOGICAL MATERIAL EXAMINATION</b>		
Any Material	Searching for: <ul style="list-style-type: none"> <li>- Blood</li> <li>- Semen</li> <li>- Saliva</li> <li>- Faeces</li> <li>- Urine</li> <li>- Hairs</li> <li>- Products of conception</li> </ul>	<ul style="list-style-type: none"> <li>- Visual examination</li> <li>- Light sources</li> <li>- Low and high-power microscopy</li> <li>- Chemical test</li> </ul>
Body Fluids	Recovery and Presumptive Testing	<ul style="list-style-type: none"> <li>- Swabbing, taping, cutting etc.</li> <li>- Chemical tests</li> </ul>
Semen	Confirmatory Tests	<ul style="list-style-type: none"> <li>- Microscopy</li> </ul>
Hair	Differentiation of Human and Animal	<ul style="list-style-type: none"> <li>- Visual examination</li> <li>- Microscopy</li> </ul>
<b>HUMAN BODY FLUID DISTRIBUTION ANALYSIS</b>		
Blood	<u>Opinion and Interpretation</u> Blood Pattern Analysis	<ul style="list-style-type: none"> <li>- Visual examination, microscopy, dimensional measurement, simulated experiment</li> </ul>

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
<b>HUMAN DNA ANALYSIS</b>		
Human Body Fluids	Extraction, quantification, amplification, and analysis of DNA from crime scene samples, subject samples, elimination database samples, environmental monitoring samples.	- Automated and Manual processes
	Extraction, quantification, amplification, and analysis of DNA samples to meet the requirements of the Custodian for the purpose of Supply to the National DNA Database	- Automated and Manual processes
	<u>Opinion and Interpretation</u> Interpretation of DNA Profiles Statistical analysis and comparison of DNA profiles	- Expert systems
<b>HUMAN KINSHIP ANALYSIS</b>		
Human Body Fluids	Extraction, quantification, amplification, and analysis of DNA.	- Automated and Manual processes
	<u>Opinion and Interpretation</u> Comparison, interpretation, and statistical analysis of DNA Profiles against compatible DNA Profile information from within submitted cases	- Expert systems
<b>NON-HUMAN BIOLOGICAL EXAMINATION - VERTEBRATES</b>		
Non-human Body Fluids and Tissues	Extraction, amplification, and analysis of DNA.	- Automated and Manual processes
<b>TOXICOLOGY: ANALYSIS FOR DRUG(S), ALCOHOL, AND/OR NOXIOUS SUBSTANCES</b>		
Human Body Fluids	Presumptive screening for the presence of drugs of abuse	- Chemical and instrumental analysis
	Screening and confirmation of drugs of abuse	- Instrumental analysis
	Quantitative analysis of drugs of abuse	- Instrumental analysis
	Identification and quantification of alcohol	- Instrumental analysis
<b>TOXICOLOGY: ANALYSIS FOR DRUGS AND ALCOHOL UNDER THE ROAD TRAFFIC ACT 1988, TRANSPORT AND WORKS ACT 1992, AND RAILWAYS AND TRANSPORT SAFETY ACT 2003</b>		
Blood / Urine	Detection and quantification of alcohol	- Instrumental Analysis

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
<b>TOXICOLOGY: ANALYSIS FOR DRUGS IN RELATION TO S5A OF THE ROAD TRAFFIC ACT 1988</b>		-
Blood	Detection and quantitation of drugs of abuse	- Instrumental Analysis
<b>ANALYSIS TO IDENTIFY AND QUANTIFY DRUGS AND/OR ASSOCIATED MATERIALS</b>		
Drugs (and materials suspected of containing drugs)	Sample preparation of large seizures of controlled drugs and materials suspected of containing drugs	- Homogenisation and sub-sampling
	Presumptive testing for drugs	- Chemical tests
	Identification and quantification of controlled drugs	- Visual examination - Microscopy - Instrumental analysis
	Identification of additives and diluents commonly associated with drugs	- Instrumental analysis
Swabs / Banknotes	Identification of controlled drugs	- Instrumental analysis
<b>FRICTION RIDGE DETAIL: VISUALISATION AND ENHANCEMENT</b>		
Any material which is capable of retaining Friction Ridge Detail	Visualisation and enhancement of fingermarks, palm marks and plantar marks	- Chemical and Physical enhancement techniques - Lifting techniques - Visual and lighting enhancement techniques
	Imaging of fingermarks, palm marks and plantar marks	- Imaging and digital capture
Developed Friction Ridge Detail	Determination of the presence of friction ridge characteristics for the purpose of subsequent comparison	- Visual examination - Low power microscopy
<b>FRICTION RIDGE DETAIL: COMPARISON</b>		
Friction Ridge Detail - Ten Prints	Comparison with Ten Prints	- Visual manual techniques - Automated techniques for initial screening
Friction Ridge Detail - Ten Prints	Comparison with Marks	- Visual manual techniques - Automated techniques for initial screening
Friction Ridge Detail - Marks	Comparison with Ten Prints	- Visual manual techniques - Automated techniques for initial screening
Friction Ridge Detail - Marks	Comparison with Marks	- Visual manual techniques - Automated techniques for initial screening
Friction Ridge Detail – Reference Plantar	Comparison with Reference Plantar	- Visual manual techniques
Friction Ridge Detail – Plantar Marks	Comparison with Reference Plantar	- Visual manual techniques
	<u>Opinion and Interpretation</u> The evaluation of the significance of any matching and non-matching features between sources of friction ridge detail	

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
<b>FOOTWEAR: CODING AND SCENE LINKING</b>		
Footwear	Coding of incident scene marks and prints taken from suspect footwear	- National Footwear Reference Collection
	Coding of Custody prints taken from suspect footwear using gross features	- National Footwear Reference Collection
	Linking of incident scene marks to other incident scene marks or crime scene marks to suspect footwear	- National Footwear Reference Collection or local database
<b>FOOTWEAR: SCREENING</b>		
Footwear	Screening of suspect footwear by pattern type, size, wear, and general patterns	- Visual examination
<b>FOOTWEAR MARK COMPARISONS</b>		
Footwear mark	Visualisation / Enhancement of footwear marks	- Chemical and Physical enhancement techniques - Lifting techniques - Visual and lighting enhancement techniques
Footwear	Production of test marks from suspect footwear	- Chemical and Physical techniques
Footwear mark	Assessment, Comparison, and evaluation of footwear with scene marks	
	<u>Opinion and Interpretation</u> The evaluation of the significance of any matching and non-matching features between the footwear scene impression and reference/control footwear marks	
<b>MARKS VISUALISATION AND ENHANCEMENT</b>		
Toolmarks	Visualisation, enhancement, and recovery of toolmarks	- lighting technique - casting - digital capture/photography
	Production of Test Marks from suspect items	- test mark media / casting - digital capture/photography
<b>MARKS COMPARISON</b>		
Toolmarks	Comparison of submitted marks, photographs of marks or marks made from suspect items with marks left at scene	- visual examination - low power microscopy - comparison microscopy - dimensional measurements - photography
	<u>Opinion and Interpretation</u> The evaluation of the significance of any matching and non-matching features between the tool scene impression and reference/control toolmarks	

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
<b>DAMAGE AND PHYSICAL FIT</b>		
Damage Clothing / Fabric	Examination, assessment, and evaluation of a damage item	<ul style="list-style-type: none"> <li>- Visual examination</li> <li>- Lighting techniques</li> <li>- Microscopy</li> </ul>
	<u>Opinion and Interpretation</u> Examination, assessment and evaluation of a damage item, comparison of damage with suspected instrument (excluding firearms) to determine the likelihood the suspected instrument caused the damage.	
Physical Fit Drugs, packaging, clothing, documents etc.	Examination of material to determine the presence of a physical fit including the determination of striation and manufacturing marks.	<ul style="list-style-type: none"> <li>- Visual examination</li> <li>- Physical manipulation</li> <li>- Lighting techniques</li> <li>- Microscopy</li> <li>- Photography / Digital Capture</li> <li>- Shadowgraph</li> <li>- Casting</li> </ul>
	<u>Opinion and Interpretation</u> The evaluation of the significance of any matching features between the recovered packaging to determine if they are from the same source.	
<b>TAGGANT ANALYSIS</b>		
Taggants Any solid material including swabs	Search, recovery, and preparation for subsequent analysis	<ul style="list-style-type: none"> <li>- Visual examination</li> <li>- Light sources</li> <li>- Low power microscopy</li> <li>- Swabbing, cutting, taping etc.</li> </ul>
	Analysis and comparison of recovered material with known source	<ul style="list-style-type: none"> <li>- High power microscopy</li> <li>- Instrumental analysis</li> </ul>
<b>ANALYSIS OF CORROSIVES AND/OR NOXIOUS SUBSTANCES</b>		
NOXIOUS SUBSTANCES (Acids, Bases and Bleaches)	Identification of acids, bases, and bleaches	<ul style="list-style-type: none"> <li>- Chemical and instrumental analysis</li> </ul>
LACHRYMATORS	Recovery, presumptive testing, and identification.	<ul style="list-style-type: none"> <li>- Direct sampling and swabbing</li> <li>- Chemical test</li> <li>- Instrumental analysis</li> </ul>
	Legal classification of devices (Firearms Act 1968)  Analysis to determine the nature of the contents of a device, and whether the item fits the description of a Prohibited Weapon	<ul style="list-style-type: none"> <li>- Visual examination</li> <li>- Reference standards and publications</li> </ul>
<b>ANALYSIS OF RESIDUES OF LUBRICANTS USED IN SEXUAL OFFENCES, INCLUDING OILS, GREASES, AND LUBRICANTS</b>		
Lubricants Swabs / Fabric / Material	Recovery, extraction, and analysis of lubricants	<ul style="list-style-type: none"> <li>- Extraction</li> <li>- Instrumental analysis</li> </ul>

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
<b>ANALYSIS OF IGNITABLE LIQUIDS AND THEIR RESIDUES</b>		
Ignitable liquids (Fire accelerants)	Recovery, examination, analysis, identification, and comparison of potential fire accelerants	<ul style="list-style-type: none"> <li>- Direct and headspace sampling</li> <li>- Instrumental analysis</li> </ul>
<b>EXAMINATION AND ANALYSIS OF PARTICULATE TRACE MATERIALS</b>		
Fibres (Any material)	Search, recovery, identification, and comparison of fibres	<ul style="list-style-type: none"> <li>- Visual examination</li> <li>- Microscopy</li> <li>- Recovery techniques</li> <li>- Instrumental analysis</li> </ul>
	<u>Opinion and Interpretation</u> The evaluation of the significance of any matching features between the suspect and reference/control fibre to determine the likelihood of the suspect fibre coming from a specific source	
Glass (Any material)	Search, recovery, characterisation, and comparison of glass fragments	<ul style="list-style-type: none"> <li>- Visual examination</li> <li>- Microscopy</li> <li>- Recovery techniques</li> <li>- Instrumental analysis</li> </ul>
	<u>Opinion and Interpretation</u> The evaluation of the significance of matching and non-matching features between the suspect and reference/control samples	
Paint (Any material)	Search, recovery, and comparison of paint	<ul style="list-style-type: none"> <li>- Visual examination</li> <li>- Microscopy</li> <li>- Recovery techniques</li> <li>- Instrumental analysis</li> </ul>
	<u>Opinion and Interpretation</u> The evaluation of the significance of any matching and non-matching features between the suspect and reference/control paint samples	
<b>EXAMINATION AND ANALYSIS OF GUNSHOT RESIDUE (GSR)</b>		
Gunshot residue (GSR) (Any material)	Recovery, identification, and comparison of organic and inorganic GSR	<ul style="list-style-type: none"> <li>- Recovery methods</li> <li>- Instrumental analysis</li> </ul>
Articles suspected of being damaged by firearms	Presumptive Testing for the presence of Lead and Copper	<ul style="list-style-type: none"> <li>- Chemical tests</li> </ul>
	<u>Opinions and Interpretations</u> Identification (type) and comparison of recovered GSR particles, including with a suspected source	
<b>EXAMINATION AND CLASSIFICATION OF FIREARMS, AMMUNITION, AND ASSOCIATED MATERIALS</b>		
Firearms	Firearm and firearm component part identification and legal classification (Firearms Act 1968)	<ul style="list-style-type: none"> <li>- Visual examination</li> <li>- Reference standards and publications</li> </ul>

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
	Firearm identification from class marks present on ammunition components	<ul style="list-style-type: none"> <li>- Visual examination</li> <li>- Reference standards and publications</li> </ul>
	Test firing to assess functionality of weapons and ammunition and to generate test samples for comparison	<ul style="list-style-type: none"> <li>- Test firing</li> </ul>
	Trigger pull measurement	<ul style="list-style-type: none"> <li>- Strain Gauge / weights</li> </ul>
	Trigger travel measurement	<ul style="list-style-type: none"> <li>- Length measurement</li> </ul>
	Determination of Kinetic Energy	<ul style="list-style-type: none"> <li>- Chronograph / balance</li> </ul>
	Accidental discharge testing	<ul style="list-style-type: none"> <li>- Impact and drop tests</li> </ul>
	Determination of Range of Fire	<ul style="list-style-type: none"> <li>- Test firing</li> </ul>
	<u>Opinion and Interpretation</u> The evaluation of features between recovered and reference/control shot patterns to determine range of fire	<ul style="list-style-type: none"> <li>- Simulation</li> </ul>
	Test Firing to generate test samples of ammunition for comparison to exhibits and for inclusion in the NABIS database	<ul style="list-style-type: none"> <li>- Test firing</li> </ul>
<b>FIREARMS: BALLISTICS</b>		
Ammunition	Ammunition and component identification and legal classification	<ul style="list-style-type: none"> <li>- Weighing</li> <li>- length measurement</li> <li>- use of known samples or standard reference data.</li> </ul>
	Examination of cartridges to determine if ammunition has been loaded into a firearm	<ul style="list-style-type: none"> <li>- Microscopy</li> </ul>
	<u>Opinion and Interpretation</u> The evaluation of features on recovered unfired ammunition	<ul style="list-style-type: none"> <li>- Use of known samples or standard reference data.</li> </ul>
	Examination of discharged ammunition components to determine the number of guns used.	<ul style="list-style-type: none"> <li>- Microscopy</li> </ul>
	<u>Opinion and Interpretation</u> The evaluation of features between recovered fired ballistic components	<ul style="list-style-type: none"> <li>- Use of known samples or standard reference data.</li> </ul>
	Comparison of spent ammunition to suspect guns	<ul style="list-style-type: none"> <li>- Microscopy</li> </ul>
	<u>Opinion and Interpretation</u> The evaluation of features on recovered fired ballistic components	<ul style="list-style-type: none"> <li>- Use of known samples or standard reference data.</li> </ul>
	Test Firing to generate test samples of ammunition for comparison to exhibits and for inclusion in the NABIS database	<ul style="list-style-type: none"> <li>- Test firing</li> </ul>



Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
<b>EXAMINATION AND ANALYSIS OF VEHICLE COMPONENTS</b>		
Light bulbs from motor vehicles and pedal bicycles	Examination and investigation of cause of failure or defect	<ul style="list-style-type: none"> <li>- Visual examination</li> <li>- Microscopy</li> <li>- Electrical continuity</li> <li>- Illumination test</li> </ul>
Wheel assemblies removed from vehicles (tyres)	Examination of wheel assemblies and constituent parts of wheel assemblies (rims, tyres, inner tubes) Identification of damage and defects <ul style="list-style-type: none"> <li>- Measurement of tread depth</li> <li>- Measurement of valve back pressure</li> </ul>	<ul style="list-style-type: none"> <li>- Visual examination,</li> <li>- Lighting techniques</li> <li>- Microscopy,</li> <li>- length measurement</li> <li>- pressure measurement</li> </ul>
<b>EXAMINATION AND ANALYSIS OF HAZARDOUS CHEMICAL AND BIOLOGICAL AGENTS AND ASSOCIATED MATERIALS</b>		
Organic liquids and water based liquid samples and extracts of samples	Identification and confirmation of CW agents and /or related compounds	<ul style="list-style-type: none"> <li>- Instrumental analysis</li> </ul>
<b>EXAMINATION AND ANALYSIS OF EXPLOSIVES, EXPLOSIVES PRECURSORS, AND EXPLOSIVE RESIDUES</b>		
Explosives, Trace, Non-Trace, Pyrotechnics and Associated Material	Recovery, identification, and confirmation of explosives and precursors	<ul style="list-style-type: none"> <li>- Recovery methods</li> <li>- Instrumental analysis</li> </ul>
<b>DATA CAPTURE AND PROCESSING FROM DIGITAL STORAGE DEVICES</b>		
Computers, digital storage devices, mobile phones, tablets etc.	Physical and logical capture and preservation of data	<ul style="list-style-type: none"> <li>- Digital forensic tools and software</li> </ul>
Data associated with digital devices	Screening of digital media for defined data types e.g. images, videos etc.	<ul style="list-style-type: none"> <li>- Digital forensic tools and software</li> </ul>
Data extracted from digital devices	Processing of data	<ul style="list-style-type: none"> <li>- Digital forensic tools and software</li> </ul>
<b>DIGITAL DATA ANALYSIS</b>		
Data extracted from digital devices	Processing and analysis of data	<ul style="list-style-type: none"> <li>- Digital forensic tools and software</li> </ul>
<b>GEOLOCATION ANALYSIS</b>		
To be determined		
<b>RECOVERY AND PROCESSING OF FOOTAGE FROM CCTV/VSS</b>		
CCTV Systems	Recovery of CCTV footage from digital CCTV systems Physical capture and preservation	<ul style="list-style-type: none"> <li>- Digital forensic tools and software</li> </ul>
Analogue and Digital CCTV footage	Video conversion / de-multiplexing Production of digital stills	<ul style="list-style-type: none"> <li>- Digital forensic tools and software</li> </ul>
Digital Images / Video	Enhancement of digital images/video	<ul style="list-style-type: none"> <li>- Digital forensic tools and software</li> </ul>

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
<b>SPECIALIST VIDEO MULTIMEDIA, RECOVERY, PROCESSING AND ANALYSIS</b>		
To be determined		
<b>TECHNICAL AUDIO OPERATIONS</b>		
Audio Digital Media	Physical and logical capture and preservation of data	- Digital forensic tools and software
Audio files	Standardisation /conversion	- Digital forensic tools and software
<b>DOCUMENT HANDWRITING</b>		
Handwriting and signatures	The examination of submitted items to compare known and suspect sources.	- visual examination - low power microscopy - photography
	<u>Opinion and interpretation</u> The evaluation of the significance of any similarities and differences between submitted items and/or suspect/reference sources to determine the likelihood of them being written by the same/different individuals.	
<b>DOCUMENT AUTHENTICITY AND ORIGIN</b>		
Documents	Detection and enhancement of indented marks made by handwriting	- Visual examination - Lighting techniques - Low power microscopy - ESDA
	Detection of alterations and decipherment of altered or obliterated entries	- Visual examination - Lighting techniques - Low power microscopy - VSC
Office printing equipment	Comparison of office printing equipment and outputs with suspect material	- Visual examination, - Low power microscopy
Inks	Recovery and comparison of inks	- Extraction - Visual examination - Lighting techniques - Low power microscopy - TLC
Currency and identity documents	Examination to determine the authenticity	- Visual examination - Low power microscopy - VSC - Database
<b>END</b>		