PROGRAMME SPECIFICATION

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Award titles

Programme Title(s)

BSc (Anrh) Gwyddor Fforensig
BSc (Hons) Forensic Science

BSc (Anrh) Gwyddoniaeth Fforensig gyda Blwyddyn Lleoliad
BSc (Hons) Forensic Science with Placement Year

Tystysgrif Addysg Barhaus Prifysgol Wrecsam (WUCCE) mewn Gwyddoniaeth ar gyfer Addysg Uwch
Wrexham University Certificate of Continuing Education (WUCCE) in Science for Higher Education

Internal Programme Title(s) (if different to the title on the certificate)

N/A

Programme to be included in Graduation Ceremonies

Yes

Delivery period

September 2023-September 2027

Intake points

BSc (Hons) September only
WUCCE June only.

Regulatory details

Regulatory details
Awarding body
Wrexham University
Programme delivered by
Wrexham University
Location of delivery
Plas Coch Campus, Wrexham
Faculty/Department
Faculty of Arts, Science & Technology (FAST) – Applied Science
Exit awards available
WUCCE in Science for Higher Education Certificate in Higher Education in Forensic Science Diploma in Higher Education in Forensic Science Diploma in Higher Education in Forensic Science with Placement Year BSc (Ord) in Forensic Science BSc (Ord) in Forensic Science with Placement Year
Professional, Statutory or Regulatory Body (PSRB) accreditation
This information is correct at the time of validation, please refer to the PSRB register for current accreditation status.

Provisional accreditation of the Chartered Society of Forensic Science will be sought following completion of the first year of delivery.
Please add details of any conditions that may affect accreditation (e.g. is it dependent on choices made by a student?) *e.g. completion of placement.*
Accreditation will be subject to satisfactory completion of the provisional accreditation process.
HECoS codes
100388 – Forensic Science
UCAS code
7F28
Relevant QAA subject benchmark statement/s
Forensic Science 2022
Mode of study
Full & part time
Normal length of study for each mode of study
1 Semester Full Time WUCCE for Science in Higher Education. 3 Years Full time BSc (Hons) Forensic Science. 6 Years Part time BSc (Hons) Forensic Science. 4 Years Full time BSc (Hons) Forensic Science with Placement Year.
Language of study
English with some Welsh embedded.
Transitional arrangements for re-validated provision if applicable
Student on the Foundation Year of the BSc (Hons) Forensic Science 2022 entry will transfer to the BSc (Hons) Forensic Science 2023 programme at Level 4. Students currently studying Levels 4, 5 and 6 of the existing BSc (Hons) Forensic Science will be taught out on that programme. Any repeat year or repeat module students may be able to continue on their original programme with 1-2-1 support if there is little requirement for the taught elements to be repeated and where the production of a new exam script or practical set up would be too time consuming
The following University Award Regulations apply to this programme
General Regulations and Definitions Regulations for Bachelor's Degrees, Diplomas, Certificates and Foundation Degrees Language Admissions Policy

OFFICE USE ONLY	
Date of validation event:	19th April 2023
Date of approval by Academic Board:	*10th May 2023*
Approved Validation Period:	*September 2023-Septeber 2027*
Transitional arrangements approved (if revalidation)	*Enter details from section 3 following validation event confirming what arrangements are*
Date and type of revision:	*Enter the date of any subsequent revisions* *(Detail the type of revision made and the implementation date)* *March 2025 – POL406 Criminal Justice replaced with revalidated version POL412 from Sep 24 onwards.*

Criteria for admission to the programme

Standard entry criteria

Entry requirements are in accordance with the University's admissions policy, please click on the following link for more information: Admissions policies.

The University's general entry requirements are;

Qualification	Entry requirements
Foundation Year	48-72 Tariff points
Foundation Degree	48-72 Tariff points
3 year Bachelors degree	80-112 Tariff points

These figures are intended as a general guide. Each application is considered individually.

International entry qualifications are outlined on the UK National Information Centre for global qualifications and skills (UK ENIC) as equivalent to the relevant UK entry qualification.

In addition to the academic entry requirements, all applicants whose first language is not English or Welsh must demonstrate English language proficiency. European students are able to provide this evidence in a number of ways (please see academic-entry-requirements for details), including IELTS. International students are required to provide an English Language Certificate which meets the requirements of the University (please see English-language-requirements for details).

Non-Standard entry criteria

Students applying to the BSc (Hons) Forensic Science programme will be able to enter through three distinct routes:

1. Direct entry at BSc Level 4:

To enter either BSc programme at Level 4, a minimum of a Level 3 qualification in a science subject is required. Common examples will include but are not limited to BTEC in Applied Science, BTEC in Forensic & Criminal Investigation, A-Level Biology, A-Level Chemistry or a Science Access course. Applicants with work experience in a scientific area will also be considered.

2. Entry at Level 3 Foundation Year in Science:

The Foundation Year route is ideal for those who are returning to study after a period away and for those who need to build general confidence in their academic skills, allowing them to complete a preparatory year covering biosciences and academic skills prior to beginning their main programme.

3. Entry at Level 4 WUCCE in Science for Higher Education:

For those students who meet, or are very close to, the UCAS requirements for Level 4 and are already confident in their study skills, but do not hold a level 3 science qualification, a tailored summer school called the WUCCE in Science for Higher Education has been developed in order to address any knowledge gaps. For these students, successful completion of the WUCCE will be a requirement for entry, however any unsuccessful students would still have the option to enter on foundation year should they choose.

Record of Prior (Experiential) learning

Applicants may enter the programme at various levels with Recognition of Prior Learning (RPL) or Recognition of Prior Experiential learning (RPEL) in accordance with the University General Regulations. Students entering through both RPL and RPEL should be aware that they may not be eligible for CSFS accreditation, and this will need to be determined on a case-by-case basis.

DBS Requirements

For students on the BSc (Hons) Forensic Science with Placement Year, a DBS may be required for the placement component of the programme if the placement involves regulated activity working with vulnerable Children and/or Adults. This will be checked as part of the placement process, identifying where required, the appropriate type and level of DBS. If required, the relevant DBS will be conducted prior to commencement on the placement. The type and level of DBS check required will be confirmed to students during the DBS application process.

As detailed in the University's Consideration of Criminal Conviction policy and procedure, the University will pay for the first DBS check for students. Students who suspend studies, or lose their DBS certificates and require a replacement will have to pay the fee for a new check.

Failure to declare a conviction, which is subsequently revealed by a DBS check may result in exclusion from the programme. The nature of declared convictions is taken into consideration following our Consideration of Criminal Convictions Policy & Procedure. In line with the Universities Disciplinary Procedure for Students, all students are required to disclose a criminal record acquired during the student's enrolment with the University.

Suitability for Practice Procedure

N/A

Aims of the programme

The aim of the BSc (Hons) programmes is to provide students with up-to-date forensic science courses and produce high quality graduates with excellent further study and employment opportunities. Modules have been designed to cover the specific criteria of three component standards of the Chartered Society of Forensic Sciences, namely 'Crime Scene Investigation', 'Laboratory Analysis', and 'Interpretation, Evaluation & Presentation of Evidence'.

The programme has also been mapped to the QAA Forensic Science 2022 Benchmark Statement. The programme structure reflects the variety of career paths in the sector to provide a logical, coherent progression through both core and optional modules. Particular focus is given to the impacts and applications of emerging disciplines and technologies in forensic investigation. There is also a focus the broader understanding of the workplace and society, including the delivery of bilingual and Welsh language provisions across scientific and criminal justice practices in Wales.

Specifically, the BSc programmes will equip/provide students with:

(i) A good comprehension of sciences, including mathematics and statistics (including the Bayesian approach and likelihood ratios), involved in forensic investigations.
(ii) Knowledge of forensic techniques and laboratory skills to carry out a range of tasks and technical processes with a degree of autonomy.
(iii) The capability to select and carry out practical laboratory experiments in forensic investigations, including the ability to use appropriate laboratory equipment.
(iv) Awareness of the types of cognitive bias and how they may affect forensic processes.
(v) Familiarity with a range of general issues and techniques involved in scene investigation.

(vi) The ability to interpret the results of laboratory and other investigations, with an appreciation of their limitations, including the hierarchy of propositions and activity level hypotheses.
(vii) A strong grasp of the various legal and law enforcement environments within which forensic science is practiced, including working across jurisdictions.
(viii) An awareness of the differences between the intelligence and evidential value of forensic findings in an investigation.
(ix) The ability to record results accurately, organise data, make deductions and clearly present the results of investigations both in written and oral form, in a manner which can be readily assimilated within a legal, law enforcement or court environment.
(x) An appreciation of how progress is made within the discipline.
(xi) Knowledge of, and commitment to, the ethical and legal obligations of science and particularly forensic science.
(xii) Respect for issues and practices involved with the handling, storage and investigation of human tissues, DNA, digital data and other trace evidential material.
(xiii) Competence in safe working practices at scenes and in the laboratory, both for self and others.
(xiv) An appreciation of quality assurance procedures within a forensic science context.
(xv) Communication skills to an understandable level, verbally and in writing.
(xvi) The capacity to interpret and communicate forensic evidence and experimental results in the context of casework, including expert opinion.
(xvii) Skills to formulate and justify expert opinion using transparent arguments, including statistical likelihood ratio where appropriate.
(xviii) The ability to appraise, quantify and clearly communicate levels of uncertainty in expert opinion or associated experimental data.
(xix) Competence to prepare and deliver impartial, comprehensible, and comprehensive oral and written reports of a quality suitable for a wide variety of legal and law enforcement situations, including those involving the public.
(xx) A working knowledge of prevailing industry best practice and legal standards applicable to evidence, including digital data.
(xxi) The skills to construct, manage and deliver case-appropriate forensic strategies, including the Case Assessment and Interpretation framework.
(xxii) The competences to adhere to contamination avoidance procedures including the handling of digital data.
(xxiii) An appreciation of the importance of the bilingual workforce and Welsh language skills in the workplace and society.

Although the nature of the placement secured will depend on the exact aims covered, it is expected that in addition to the aims listed above, the Placement Year programmes will equip/provide students with:

(i) Practical experience in applying theoretical knowledge to real-world situations.
(ii) The chance to develop professional skills such as communication, teamwork, time management, and project management, which are essential for a successful career.
(iii) To build a network of professional contacts and gain exposure to different areas forensic graduates could work.
(iv) To gain an understanding of the practical challenges and limitations that occur in industry, such as dealing with incomplete or inconsistent data, and the importance of error detection and correction.
(v) To apply ethical and legal principles, such as compliance with industry regulations and guidelines.

Scientific skills and knowledge for higher education study require students to understand the fundamentals of both theory and practical work which many have not covered since

completing GCSE's. The WUCCE for Science in Higher Education aims to bridge this gap for students who require the scientific background to their studies.

Specifically, the WUCCE programme will equip/provide students with:

(vi) An introduction to the general concepts and principles of natural science
(vii) An awareness the philosophy behind scientific research.
(viii) Theoretical and practical knowledge of key laboratory methods in biology and chemistry.
(ix) An emphasis on familiarisation with laboratory techniques and equipment.
(x) An awareness and adherence to safe working practices.
(xi) An introduction to experimental design and data interpretation.
(xii) The opportunity to plan and execute a simple laboratory or field experiment.
(xiii) An insight into how science and technology influence and are influenced by contemporary society.
(xiv) Scientific reporting skills including oral, visual and written presentation.

Distinctive features of the programme

The WUCCE for Science in Higher Education is a one of a kind summer school programme bridging knowledge gaps by focusing on familiarisation with key aspects of biology, chemistry and maths alongside safe working practices and best practice in ethics. This gives students not only the option but the confidence to pursue science at higher education level.

Particular benefits of the Science for Higher Education programme are:

(i) Gaining the fundamental scientific knowledge and skills expected of a student entering a science degree.
(ii) Becoming familiar with the University campus and laboratory spaces.
(iii) Meeting staff and classmates in a smaller setting, boosting confidence ahead of induction and fresher's activities.
(iv) Getting a head start in the University mindset and culture.
(v) A cost effective route in to HE and STEM that doesn't require any significant financial investment.
(vi) Flexibility to use this qualification on the route to a range of other scientific programmes.
(vii) An opportunity to test their knowledge and skills at level 4 before committing to the full degree programme.
(viii) An expedited option which prevents students having to spend an additional year at level 3 when they are ready for more.

The nature of forensic science determines its variety in the knowledge and skills required by the sector. Therefore, the BSc (Hons) programmes offers three different specialist routes in:

- Forensic Biology
- Forensic Chemistry
- Post-mortem Investigation

This will help students to develop their career based on their passion and academic strength in certain areas, as well as allowing them to transition out of forensic science if so desired.

All students will gain an in-depth knowledge and understanding of crime scene investigation, from fingerprints, footwear, and DNA, as well as the legal principles that underpin forensic investigation. As they move on to more specialist modules across the pathways, they will cover more advance techniques such as chemical testing, microbiology, and skeletal analysis, to name but a few areas. Students will also gain experience of presenting their results in a courtroom scenario, acting as expert witnesses for both the prosecution and defence. For those that elect to also take the Placement Year they will have the opportunity to better understand the applied nature of roles allied to forensic science as well as an insight to the job market and current challenges for practitioners.

The BSc (Hons) programmes have been designed with particular consideration to the widening participation agenda, which attracts and supports students from non-traditional backgrounds. The programme has been structured so that theoretical and experiential learning modules interlink and support each other throughout. Students will first learn the principles that underpin the analytical and investigative methods before gaining hands-on experience.

Particular benefits of both BSc (Hons) programmes are:

(i) The opportunity to be embedded in a culture of research fostered by the academic staff.
(ii) Small teaching groups with low student to staff ratio supporting individualised support with studies.
(iii) A flexible curriculum allowing students to pursue their strengths and interests.
(iv) Support to begin learning or progress current Welsh Language skills including carefully curated Welsh content during each academic year and the option for tutorials in Welsh.

(v) Work-related learning opportunities for all students as well as a dedicated placement year for students electing this pathway.
(vi) Two newly renovated science laboratories with state-of-the-art AV systems and teaching equipment.
(vii) Hands-on practical experience of modern laboratory equipment including a broad range of analytical instruments like UV-vis, FTIR, Fluorescence, NMR, Atomic absorption spectrometers and HPLC, GC-MS, MALDI-TOF.
(viii) A dedicated crime scene buildings with garden and vehicle allowing the replication of a range of domestic and commercial crime scene scenarios.
(ix) The first and only Decomposition Research Facility in Wales which enables projects within forensic taphonomy, entomology and ecology to be undertaken.
(x) An osteology work room with access to both human and animal remains for anthropological and archaeological studies.
(xi) A purpose built Court Room for simulation based activities and participating in Mock Trials.
(xii) Access to the FAST 3D Lab for projects related to scanning and printing of artefacts and evidence such as for facial reconstruction or tool mark analysis.
(xiii) Opportunities to join several professional bodies as a student member, including the Chartered Society of Forensic Sciences, the Royal Society of Biology, the Royal Society of Chemistry and the Institute for Archaeologists.

Moreover, alongside the facilities within the University, collaborative arrangements with external partners also allow opportunities for industry lead research, defined, and supported by practitioners. The Applied Science Team works closely with several local, national, and international organisations which offer students not only an excellent insight into the current job market but also opportunities for engagement both as part of their main programme of study, through complimentary short courses and through bespoke arrangements for placements or collaborative research. Some specific examples from recent years are listed below however, it is important to note that all of these opportunities may not necessarily be available in every year of study.

- **UKK9** - This private search dog training company regularly offer guest lectures and opportunities for students to attend workshops. They co-deliver two short courses within Applied Science, one in Canine Operational Support and the other an Introduction to Search Dog Handling
- **Poulton** - A small collection of human skeletal remains from the Poulton Research project are curated within the department alongside some additional animal skeletons. Additionally, the collaboration supports WGU students wanting to take part in the Poulton Summer Field School Dig.
- **BCUHB** - The collaborative agreement with the Health Board originally arranged for the Biomedical programme remains strong with staff from the hospital providing expertise and access to specialist equipment within the hospital laboratories. Much of this equipment is also relevant to Forensic Science and so opportunities for collaboration and research in this area also exist.
- **Coroners Service** - HM Coroners service in the local area for have been very supportive of students here at WGU providing an annual guest lecture. Throughout the response to COVID staff and students from the Forensic Science programme worked closely with the in management of the dead and several students undertook voluntary roles within local mortuaries to help with the response to the pandemic.
- **North Wales Police** - We maintain our good working relationship with Crime Services Staff at NWP with their staff delivering guest lectures and promoting upcoming trainee positions. We have also been fortunate to receive some donations of surplus equipment from including Gun Shot Residue testing kits and a fingerprint development table.

In addition, some staff are actively engaged within the forensic industry through part time and voluntary roles outside of their academic responsibilities. This covers a range of professional work from casework consultancy through to sitting on external committees for PSRBs. Activities have included helping to organise international conferences within Forensic Anthropology, providing training in Forensic Medicine to student doctors within the NHS, providing advice and expert support on active missing persons and cold cases, and deployment to major crime and mass fatality incidents.

All these connections will be of particular benefit to student on the Professional Placement Route and so, in addition the Placement Year programme also benefits from:

(i) Close working relationships and collaboration with both local, national and international organisations
(ii) Vast networks of professionals who can provide support and guidance on placement prospects.
(iii) The opportunity to broaden your experience and enhance your employability.
(iv) The prospect of making yourself stand out to recruiters due to the workplace skills you develop
(v) Building personal and professional networks through connections with your work place colleagues

Credit Accumulation and exit awards

Exit Awards	Requirements
WUCCE in Science for Higher Education	60 credits at Level 4 from the WUCCE in Science for Higher Education
Certificate of Higher Education in Forensic Science	120 credits at Level 4 or above (excluding WUCCE modules)
Diploma of Higher Education in Forensic Science	240 credits (excluding WUCCE modules), 120 of which are at Level 5 or above.
Diploma of Higher Education in Forensic Science with Placement Year	360 credits (excluding WUCCE modules) 240 of which are at Level 5 or above and 120 of which are from SCI5XX Professional Placement
BSc (Ord) in Forensic Science	300 credits (excluding WUCCE modules) 60 of which are at Level 6
BSc (Ord) in Forensic Science with Placement Year	400 credits (excluding WUCCE modules) 60 of which are at Level 6 and 120 of which are from SCI5XX Professional Placement
BSc (Hons) in Forensic Science	360 Credits (excluding WUCCE modules) 120 of which are at Level 6
BSc (Hons) in Forensic Science with Placement Year	480 Credits (excluding WUCCE modules) 120 of which are at Level 6 and 120 of which are from SCI5XX Professional Placement

WUCCE Science for Higher Education Delivery

Module Code	Module Title	Credit Value	Core/ Option	Delivery
SCI455	Investigative Skills for Science	20	Core	Summer
SCI456	Practical Techniques in Science	20	Core	Summer
SCI457	Principles & Applications of Science	20	Core	Summer

BSc (Hons) Forensic Science Full-Time Delivery

Module Code	Module Title	Credit Value	Core/ Option	Delivery
SCI442	Maths & Statistics for Science	20	Core	Y1 S1
SCI443	Introduction to Chemistry	20	Core	Y1 S1
SCI431	Crime Scene Investigation	20	Core	Y1 S1
POL412	Criminal Justice	20	Core	Y1 S2
SCI458	Essential Laboratory Skills	20	Core	Y1 S2
SCI450	Cell Biology, Biochemistry & Genetics	20	Core	Y1 S2
SCI554	Forensic Evidence & Quality Management	20	Core	Y2 S1
SCI553	Forensic Ecology	20	Core	Y2 S1
SCI545	Analytical Methods in Applied Science	20	Core	Y2 S1
SCI557	Research Methods	20	Core	Y2 S2
SCI558	Taphonomy	20	Option - PMI	Y2 S2
SCI551	Anatomy, Pathology & Post-Mortem Examination	20	Option - PMI	Y2 S2
SCI555	Forensic Instrumental Analysis	20	Option - CHEM	Y2 S2
SCI527	Laboratory Instrumental Analysis	20	Option - CHEM	Y2 S2
SCI547	Cell & Molecular Biology	20	Option - BIO	Y2 S2
SCI552	Applied & Medical Microbiology	20	Option - BIO	Y2 S2
SCI638	Research Project	40	Core	Y3 S1&2
SCI649	Emerging Technologies & Digital Forensics	20	Core	Y3 S1
SCI642	Drugs & Toxicology	20	Option - CHEM	Y3 S1
SCI648	Drugs & the Human Body	20	Option - BIO	Y3 S1
SCI650	Forensic Archaeology	20	Option - PMI	Y3 S1
SCI647	Case Studies in Forensic Science	20	Core	Y3 S2
SCI651	Professional Practice & the Expert Witness	20	Core	Y3 S2

BSc (Hons) Forensic Science Part-Time Delivery

Module Code	Module Title	Credit Value	Core/ Option	Delivery
SCI442	Maths & Statistics for Science	20	Core	Y1 S1
SCI443	Introduction to Chemistry	20	Core	Y1 S1
POL412	Criminal Justice	20	Core	Y1 S2
SCI431	Crime Scene Investigation	20	Core	Y2 S1
SCI458	Essential Laboratory Skills	20	Core	Y2 S2
SCI440	Cell Biology, Biochemistry & Genetics	20	Core	Y2 S2
SCI545	Analytical Methods in Applied Science	20	Core	Y3 S1
SCI554	Forensic Evidence & Quality Management	20	Core	Y3 S1
SCI551	Anatomy, Pathology & Post-Mortem Examination	20	Option - PMI	Y3 S2
SCI555	Forensic Instrumental Analysis	20	Option - CHEM	Y3 S2
SCI552	Applied & Medical Microbiology	20	Option - BIO	Y3 S2
SCI553	Forensic Ecology	20	Core	Y4 S1
SCI557	Research Methods	20	Core	Y4 S2
SCI558	Taphonomy	20	Option - PMI	Y4 S2
SCI527	Laboratory Instrumental Analysis	20	Option - CHEM	Y4 S2
SCI547	Cell & Molecular Biology	20	Option - BIO	Y4 S2
SCI649	Emerging Technologies & Digital Forensics	20	Core	Y5 S1
SCI642	Drugs & Toxicology	20	Option – PMI	Y5 S1
SCI648	Drugs & the Human Body	20	Option – CHEM	Y5 S1
SCI650	Forensic Archaeology	20	Option - BIO	Y5 S1
SCI647	Case Studies in Forensic Science	20	Core	Y5 S2
SCI638	Research Project	40	Core	Y6 S1&2
SCI651	Professional Practice & the Expert Witness	20	Core	Y6 S2

BSc (Hons) Forensic Science with Placement Year Full-Time Delivery

Module Code	Module Title	Credit Value	Core/ Option	Delivery
SCI442	Maths & Statistics for Science	20	Core	Y1 S1
SCI433	Introduction to Chemistry	20	Core	Y1 S1
SCI431	Crime Scene Investigation	20	Core	Y1 S1
POL412	Criminal Justice	20	Core	Y1 S2
SCI458	Essential Laboratory Skills	20	Core	Y1 S2
SCI450	Cell Biology, Biochemistry & Genetics	20	Core	Y1 S2
SCI554	Forensic Evidence & Quality Management	20	Core	Y2 S1
SCI553	Forensic Ecology	20	Core	Y2 S1
SCI545	Analytical Methods in Applied Science	20	Core	Y2 S1
SCI557	Research Methods	20	Core	Y2 S2
SCI558	Taphonomy	20	Option - PMI	Y2 S2
SCI551	Anatomy, Pathology & Post-Mortem Examination	20	Option - PMI	Y2 S2
SCI555	Forensic Instrumental Analysis	20	Option - CHEM	Y2 S2
SCI527	Laboratory Instrumental Analysis	20	Option - CHEM	Y2 S2
SCI547	Cell & Molecular Biology	20	Option - BIO	Y2 S2
SCI552	Applied & Medical Microbiology	20	Option - BIO	Y2 S2
SCI556	Professional Placement	120	Core	Y3 S1&2
SCI638	Research Project	40	Core	Y4 S1&2
SCI649	Emerging Technologies & Digital Forensics	20	Core	Y4 S1
SCI642	Drugs & Toxicology	20	Option - CHEM	Y4 S1
SCI648	Drugs & the Human Body	20	Option - BIO	Y4 S1
SCI650	Forensic Archaeology	20	Option - PMI	Y4 S1
SCI647	Case Studies in Forensic Science	20	Core	Y4 S2
SCI651	Professional Practice & the Expert Witness	20	Core	Y4 S2

Intended learning outcomes of the programme

BSc (Hons) Forensic Science & BSc (Hons) Forensic Science with Placement Year

Knowledge and Understanding

	Level 4	Level 5	Level 6	Level 6 (Hons)
A1	Show a fundamental grasp of the roles, responsibilities and liabilities of personnel involved in the investigation of crime.	Develop a comprehensive grasp of the roles, responsibilities and liabilities of personnel involved in the investigation of crime.	Develop a systematic appreciation of the roles, responsibilities and liabilities of personnel involved in the investigation of crime.	Critically and systematic evaluate the roles, responsibilities and liabilities of personnel involved in the investigation of crime.
A2	Follow the processes to co-ordinate and perform searches of crime scenes, and recognise, collect and record (including photograph) potential evidence.	Follow the processes to co-ordinate and perform systematic searches of crime scenes, and recognise, collect and record (including photograph) potential evidence.	Comprehensively follow and reflect on the processes to co-ordinate and perform systematic searches of crime scenes, and recognise, collect and record (including photograph) potential evidence.	Comprehensively follow and critically reflect on the processes to co-ordinate and perform systematic searches of crime scenes, and recognise, collect and record (including photograph) potential evidence.
A3	Use of chemical or biological analysis techniques in forensic investigation.	Comprehensively demonstrate the fundamental principles of analytical techniques and their applications in forensic investigation.	Develop a critical awareness of the principles of forensic post-mortem investigation, forensic chemistry or forensic biology.	Develop a critical and comprehensive awareness of the principles of forensic post mortem investigation, forensic chemistry or forensic biology.
A4	Show knowledge of the criminal justice system in relation to forensic science.	Show comprehensive knowledge of the criminal justice system in relation to forensic science.	Show a critical knowledge of the criminal justice system in relation to forensic science.	Show a critical and comprehensive knowledge of the criminal justice system in relation to forensic science.
A5	Demonstrate the importance of evidential and intelligence value of information obtained by crime scene investigation and laboratory analysis.	Explain evidential and intelligence value of information obtained by crime scene investigation and laboratory analysis.	Critically evaluate evidential and intelligence value of information obtained by crime scene investigation and laboratory analysis.	Systematically and critically evaluate evidential and intelligence value of information obtained by crime scene investigation and laboratory analysis.
A6	Manipulate data related to scientific problems using fundamental numeracy, algebraic and statistical competence involved in forensic investigation.	Demonstrate more advanced numerical, mathematical and statistical skills and their applications in forensic investigation.	Develop a critical knowledge of essential mathematics and statistics and their applications in forensic investigation, applying a range of more specialist mathematical and statistical skills as appropriate to the subject.	Develop a critical knowledge of essential mathematics and statistics and their applications in forensic investigation, confidently applying a range of specialist mathematical and statistical skills as appropriate to the specialist subject area.

Intellectual Skills

	Level 4	Level 5	Level 6	Level 6 (Hons)
B1	Begin to organise and appraise the knowledge of essential scientific facts, concepts and theories relating to forensic science.	Organise and appraise the knowledge of essential scientific facts, concepts and theories relating to forensic science.	Organise efficiently and appraise the knowledge of essential scientific facts, concepts and theories relating to forensic science.	Organise efficiently and appraise the knowledge of essential scientific facts, concepts and theories relating to forensic science with critical thinking.
B2	Describe the potential complexity of crime scene investigation, and the practical and legal constraints.	Describe and assess the potential complexity of crime scene investigation, and the practical and legal constraints.	Critically assess the potential complexity of crime scene investigation, and the practical and legal constraints.	Critically assess and evaluate the potential complexity of crime scene investigation, and the practical and legal constraints.
B3	Assemble information from a variety of sources.	Assemble and evaluate information from a variety of sources.	Assemble efficiently, evaluate and critically assess information from a variety of sources.	Assemble efficiently, evaluate and critically assess scientific data/information from a variety of sources.
B4	Show awareness of scientific databases.	Show comprehensive awareness of scientific databases.	Critically evaluate the usefulness of scientific databases.	Critically and efficiently evaluate the usefulness of scientific databases.
B5	Perform academic literature search under the guidance of tutor.	Perform academic literature search.	Perform independent literature search.	Show the strong ability of literature search to locate key information.
B6	Present the subject of study using basic academic skills (oral and writing).	Present the subject of study using essential academic communication skills (oral and writing).	Present the subject of study using extensive academic communication skills (oral and writing)	Professionally present in the subject of study academic writing and oral presentation skills.
B7	Show an appreciation of methodology in crime scene investigation and laboratory analysis of unknown trace materials.	Show a comprehensive appreciation of methodology in crime scene investigation and laboratory analysis of unknown trace materials.	Critically appreciate methodology in crime scene investigation and laboratory analysis of unknown trace materials.	Critically and systematically appreciate methodology in crime scene investigation and laboratory analysis of unknown trace materials, with ability to formulate approaches in such scenarios.

Subject Skills

	Level 4	Level 5	Level 6	Level 6 (Hons)
C1	Be aware of the health and safety issues of a crime scene and of laboratory experiments.	Comprehensively appreciate the health and safety issues of a crime scene and of laboratory experiments.	Evaluate health and safety issues of a crime scene and of laboratory experiments.	Critically evaluate health and safety issues of a crime scene and of laboratory experiments.
C2	Perform proper risk assessment under guidance from the tutor.	Perform proper risk assessment with minimal guidance.	Perform proper risk assessment independently	Perform research project in the laboratory with minimum supervision.
C3	Demonstrate awareness of ethical issues in current areas of study and be able to discuss these in relation to personal beliefs and values.	Be aware of the wider social and environmental implications of areas of study and be able to debate issues in relation to more general ethical perspectives.	Be aware of ethical issues in current areas of study and personal responsibility and professional codes of conduct.	Be aware of personal responsibility and professional codes of conduct and can incorporate a critical ethical dimension into a major piece of work.
C4	Record experimental observations in analytical laboratory.	Record and appraise experimental observations in a logical manner.	Record and appraise experimental observations in a logical and contemporaneous manner.	Record and appraise experimental observations in a logical, comprehensive and contemporaneous manner.
C5	Process data results at an introductory level.	Interpret data/scientific information in a meaningful, structured manner.	Critically interpret data/scientific information in a meaningful, structured manner.	Critically analyse and interpret data/scientific information in a meaningful, structured manner.
C6	Present results of forensic investigations and chemical analysis.	Present results of forensic investigations and chemical analysis in structured, contemporaneous manner.	Comprehensively present results of forensic investigations and chemical analysis in structured, contemporaneous manner.	Apply advanced skill to present results of forensic investigations and chemical analysis in structured, contemporaneous manner.

	Level 4	Level 5	Level 6	Level 6 (Hons)
C7	Show a fundamental knowledge of ethical issues in the forensic investigation.	Show a comprehensive knowledge of ethical issues in the forensic investigation.	Critically review the ethical issues involved in the forensic investigation.	Critically review the ethical issues involved in the forensic investigation and successfully apply for ethical approval for research projects.

Practical, Professional and Employability Skills

	Level 4	Level 5	Level 6	Level 6 (Hons)
D1	Demonstrate use of the elements of Microsoft office; Word, Excel and PowerPoint.	Demonstrate more advanced IT software skills;	Use and access a limited selection of more specialist IT skills related to subject specific software.	Use and access a limited selection of more specialist IT skills related to subject specific software for analysing experimental data.
D2	Use the internet and particularly virtual learning environment to access data and information from the University and other resources.	Use online databases effectively to gain information.	Conduct effective searches for information using a range of online resources.	Conduct effective and efficient searches for information using a range of online resources.
D3	Study in a systematic, directed way with the aid of appropriate tutor guidance.	Learn in an increasingly effective and purposeful way, with beginning of development as an autonomous learner.	Adopt a broad-ranging and flexible approach to study; identify learning needs; pursue activities designed to meet these needs in increasingly autonomous ways	With minimal guidance, manage own learning using a wide range of resources appropriate to the forensic profession; seek and make effective use of feedback.
D4	Begin managing tasks in a timely manner.	Demonstrate a responsible, ethical, professional approach to work.	Work independently, setting and achieving appropriate goals.	Effectively manage their time, and work within a framework where there are competing priorities and values.
D5	Participate in clearly defined group situations.	Effectively participate in more demanding group tasks, including a group project and meet obligations to others	Give and receive information and ideas and modify responses where appropriate.	Recognise, support or be proactive in leadership and negotiate in a professional context and manage conflict.
D6	Interact with tutors and fellow students.	Demonstrate more advanced interactive and group skills	Interact effectively within a learning or subject-specific group	Interact effectively within learning or professional groups
D7	Apply fundamental theory and methods to a well-defined problem and appreciate the complexity of the issues in the subject.	Identify key areas of problems and choose appropriate tools/methods for their solution in a considered manner.	Be confident and flexible in identifying and defining complex problems and can apply appropriate knowledge and skills to their solution.	Be increasingly independent, confident and flexible in identifying and defining complex scientific problems, and in the application of knowledge and skills appropriate to their solution.

BSc (Hons) Forensic Science with Placement Year

L5	Knowledge and Understanding	L5	Intellectual Skills	L5	Subject Skills	L5	Practical, Professional and Employability Skills
A7	Identify job roles and industries where the knowledge developed through a forensic science programme could be beneficial.	B8	Plan of work appropriately in response to a recognised need in a working environment.	C8	Identify job roles and industries where the skills developed through a forensic science programme could be beneficial.	D8	Work effectively to deliver upon the requirements of the workplace host.
A8	Apply subject specific knowledge to a defined project in an industry setting	B9	Recognise the roles played in a defined project.	C9	Apply subject specific skills in a working environment	D9	Reflect upon experience in a workplace setting

WUCCE Science for Higher Education

L4	Knowledge and Understanding	L4	Intellectual Skills	L4	Subject Skills	L4	Practical, Professional and Employability Skills
A1	Explain fundamental concepts underpinning science & technology.	B1	Formulate an overview of a scientific topic.	C1	Correctly set up and use laboratory equipment.	D1	Communicate scientific information in an appropriate & professional manner.
A2	Apply the key concepts in chemistry, biology & maths to experimental tasks.	B2	Appreciate the philosophy and methodology in natural science.	C2	Show simple instrumental techniques pertaining to chemical & biological analysis.	D2	Follow principles of good laboratory practice, including risk assessments & ethics.
A3	Use relevant scientific language & terminology in appropriate context.	B3	Use graphs & charts to interpret scientific data.	C3	Demonstrate basic scientific writing skills.	D3	Present experimental findings to an audience.

Learning and teaching strategy

Academic staff have a commitment to teaching excellence with all staff currently holding teaching qualifications or fellowship of Advanced HE. Staff actively engage with university wide initiatives for sharing good practice around teaching including participation with peer review, attendance at staff development conferences and engagement with learning lunches and bitesize workshops.

The BSc (Hons) Forensic Science will be delivered in line with the University's Active Learning Framework which is a teaching and learning approach that emphasises student engagement and participation in the learning process. Fostering a blend of asynchronous content with supported face to face delivery, the delivery style will see learners engaged with materials produced and carefully curated by staff to factor in any additional learning needs of students. With an ambitious approach to embrace learning technology the new programme will champion the use of innovative teaching practices such as SCALE-UP, simulation and the use of the hybrid and flexible facilities in the newly refurbished laboratories. This will also ensure that students are developing other critical skills for employment alongside their subject knowledge such as digital fluency, team working and leadership.

As well as traditional lectures, seminars and tutorials, the following are some of the more specific strategies that will be used to align with the Active Learning Framework and enable the intended learning outcomes to be achieved on the BSc (Hons) Forensic Science programme:

Problem-Based Learning: This approach involves presenting students with real-world problems and challenges that they must solve using the knowledge and skills they have acquired. This can include simulations, case studies, and group projects that require students to apply their forensic science knowledge to real-life scenarios.

Laboratory/Field Practicals: Students on the forensic science programme will study for a significant portion of the course through practical, hands-on experience. This can include laboratory work, fieldwork, and other experiential learning activities that allow students to apply their knowledge to real-world situations.

Collaborative Learning: Working in small groups or teams allows students to share their knowledge and skills and learn from one another. Collaborative learning can include group projects, discussions, and peer review activities.

Self-Directed Learning: Encouraging students to take responsibility for their own learning and to set their own goals can help them to become more engaged and motivated. As well as research and assignment preparation this can also include self-reflection, journaling, and goal setting activities.

Feedback: Regular feedback on student performance can be provided through formative assessments, self-reflection, peer review, and summative assessments. This helps students to understand their strengths and weaknesses and identify areas for improvement. Additional academic skills workshops will also be offered to students to support their study.

Real-World Connections: Connecting the theoretical knowledge with the real-world applications by bringing guest speakers through science network seminars, visiting relevant external sites or industries, and giving students opportunities to work on real-world projects to make the learning experience more relevant and meaningful.

Online and Blended Learning: Incorporating online and blended learning can provide students with more flexibility in terms of how and when they learn. This can include online lectures, virtual labs, and other digital resources that can be accessed at any time.

The Wrexham Graduate

At Wrexham University we aim to help students develop and enhance key employability skills and capabilities during their study. There are three key areas with different attributes, attitudes and skillsets and the aim is to help students have the opportunity to enhance and develop skills such as resilience, adaptability, confidence, team working, emotional intelligence and communication, creativity and acting ethically and sustainably. Programmes are designed to enable students to develop and enhance these skills via module content, module learning outcomes and assessment opportunities. Each module will help provide different opportunities for developing and enhancing these capabilities.

The Careers team are available to provide information, advice and guidance and access to resources for potential students, current students and graduates. WGUConnect provides students with access to an online directory of vacancies. The Careers team can support students with employability and interview skills such as use of the STAR (Situation, Task, Action, Result) technique that many recruiters use to gather relevant information about a specific capability that the job requires.

Work based/placement learning statement

For students electing to take the BSc (Hons) Forensic Science with Placement Year the work based learning and developmental experience is captured by the University as part of the SCI556 Professional Placement module that students study between Levels 5 and 6 of the main programme. This module is worth 120 academic credits and contains three elements of assessment that students must pass in order to successfully complete the module. It provides a valuable opportunity for students to familiarise themselves with an employment setting. This is an important part of the Faculty and University's efforts to increase employability and provide graduates with a more diverse range of skills and experiences therefore the administration and assessment of the Professional Placement module is the responsibility of the University.
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Students are expected to find and secure a suitable placement opportunity. This could be done independently or in collaboration with a member of staff at the University or via the University Work Related Learning Unit. It is the expectation of the University that, whilst the student is working with the placement provider, they will hold a contractual position in that organisation. As such, the placement provider is responsible for the Health and Safety of the student. The student will produce a full placement proposal the outset and detail who the placement provider is to be. The University must approve proposals submitted by students before the placement can commence. A more detailed overview of the placement expectations and arrangements can be found in the Applied Science Professional Placement handbook.

On the BSc (Hons) Forensic Science programme there is no stand alone placement or work based learning module, however all students will see how elements of work based and work related learning have been embedded in to their programme of study. The volume of practical work, use of case studies and simulation all help students develop key skills needed for employment. In particular we focus on using assessment strategies that reflect the types of work required in the industry. An example of this is in the SCI651 Professional Practice and the Expert Witness module which is designed to allow students to work collaboratively with professionals and other students on a large scale crime scene incident. Here the students take on the role of an expert witness and eventually present their findings in a Mock Court setting.

Welsh medium provision

The programmes will be primarily be delivered through the medium of English. However, as a proud Welsh institution, we embrace opportunities for all students to engage with the Welsh language and so across each level of the programme a key module will be identified where elements of Welsh language will be embedded for all students. This will include not only opportunities to learn and speak some Welsh but also an awareness of compliance requirements within public sector organisations. In addition to the content embedded into the curriculum other opportunities to promote Welsh will be used, including focus on Welsh case studies and the use of traditional Welsh names and places as part of scenario-based activities.

Alongside their main programme students are encouraged to undertake stand-alone Welsh language qualifications to further their knowledge and skills. For those on the placement year programme, support will be given to those interested in undertaking placements partially or entirely in Welsh and, where possible a Welsh speaking staff member will be allocated as the placement co-ordinator. On the wider programme, students who wish to undertake part or all of their assessments in Welsh will be encouraged to do so although there is no requirement for any formal assessment to be completed in Welsh and the ability to speak or understand Welsh will not be a condition of progression or qualification.

This approach to bilingual education for all students will be of particularly benefit for those who intend to work in Wales post-graduation. Consultation with North Wales Police has shown that all staff must now have some Welsh language skills as standard and many other organisations are also listing this as either essential or desirable criteria. Furthermore, language skills would show favourably on any job application in terms of communication, enterprise and curiosity.

Assessment strategy

Any assessment has three primary aims:

1. To provide a framework for the assessment of students' competence, knowledge and understanding and a method for evaluating a student's abilities for the purposes of progression and certification.
2. To provide a vehicle for the promotion of student learning, during the stages of both preparing for the assessment and reading feedbacks from the tutors afterward.
3. To provide information to teaching staff and external examiners on the quality of the provision and to ensure equity of standards across the HE sector.

The most appropriate methods of assessment vary between modules. The methods of assessment used will reflect the content and learning objectives of each module, ensuring that students get different opportunities to showcase their ability, knowledge, understanding and transferable skills. Students will be made fully aware of the methods of assessment and the weighting of individual components to be used in each module from the outset, as well as the marking criteria *etc*.

The following are example of methods of assessment that will be used:

1. Examination
2. In Class Tests
3. Coursework
4. Written Assignments
5. Practicals
6. Oral Assessments
7. Presentations
8. Dissertation

All assessments are peer reviewed for consistency of standard and layout before issuing to students. The end of module exam assessment for levels 5 and 6 will be peer reviewed with

the programme team before being sent to the external examiner, in line with university regulations, to ensure that each assessment is explicit in its intent, and that it is valid and reliable. Samples of student assessments for each module are double marked by a tutor in the same subject area in order to ensure the correct standard of marking. Samples of marked assessments are then sent to the External Examiner for further scrutiny. All stages of peer review and double marking are recorded on a proforma for each module.

Students will receive formative assessment, particularly during the practical and self-study elements of the programme to ensure they can keep track of their progress and development. This will also be a key factor in ensuring student engagement and retention on the programme of study. In the case of practical assessment, this may be a final summative assessment, so more frequent formative assessment provides academic rigour and increases student awareness and confidence in the subject.

Module leaders will collate work and are responsible for presenting this at assessment boards, to enable ratification of results. External examiners will attend assessment boards and contribute to the process, to ensure external validity of assessment. Students will be informed of provisional results prior to an assessment board, and in writing following ratification of the results, with re-submission dates if needed. An overview of module assessments throughout the programme, with an indication of submission dates in a typical academic year is summarised in the table below.

Module code & title	Assessment type and weighting	Indicative submission date
SCI442 Maths & Statistics for Science	50% Exam 50% Coursework	Week 6, Sem 1 Week 11, Sem 1
SCI443 Introduction to Chemistry	50% Exam 50% Coursework	Week 9, Sem 1 Week 12, Sem 1
SCI431 Crime Scene Investigation	Pass/Refer Practical 100% Written Assignment	Week 10, Sem 1 Week 13, Sem 2
POL412 Criminal Justice	50% Practical 50% Written Assignment	Week 5, Sem 2 Week 12, Sem 2
SCI458 Essential Laboratory Skills	50% Coursework 50%Written Assignment	Week 8, Sem 2 Week 12, Sem 2
SCI450 Cell Biology, Biochemistry & Genetics	50% Exam 50% Coursework	Week 13, Sem 2 Week 9, Sem 2
SCI554 Forensic Evidence & Quality Management	50% Practical 50% Portfolio	Week 9 Sem 1 Week 13 Sem 1
SCI553 Forensic Ecology	50% Practical 50% Written Assignment	Week 8 Sem 1 Week 11 Sem 1
SCI545 Analytical Methods in Applied Science	50% Coursework 50% Exam	Week 10 Sem 1 Week 12 Sem 1
SCI557 Research Methods	50% Written assignment 20% Poster Presentation 30% Written Assignment	Week 10 Sem 2 Week 11 Sem 2 Week 12 Sem 2
SCI558 Taphonomy	50% Oral Assessment 50% In-class Test	Week 9 Sem 2 Week 13 Sem 2
SCI551 Anatomy & Pathology	50% Presentation 50% In-class Test	Week 8 Sem 2 Week 13 Sem 2
SCI555 Forensic Instrumental Analysis	50% Coursework 50% Exam	Week 10 Sem 2 Week 12 Sem 2
SCI527 Laboratory Instrumental Analysis	100% Portfolio	Week 7 Sem 2 Week 9 Sem 2 Week 11 Sem 2
SCI547 Cell & Molecular Biology	100% Exam	Week 13, Sem 2
SCI552 Applied & Medical Microbiology	60% Presentation 40% Exam	Week 9 Sem 2 Week 13 Sem 2

Module code & title	Assessment type and weighting	Indicative submission date
SCI556 Professional Placement	Pass/Refer Coursework Pass/Refer Written Assignment Pass/Refer Portfolio	Week 6 Sem 2 Week 10 Sem 1 Week 10 Sem 2
SCI650 Forensic Archaeology	50% Presentation 50% Practical	Week 9 Sem 1 Week 13 Sem 1
SCI642 Drugs & Toxicology	50% In Class test 50 %Presentation	Week 12 Sem 1 Week 10 Sem 1
SCI648 Drugs & the Human Body	50% Coursework 50% Presentation	Week 12 Sem 1 Week 10 Sem 1
SCI649 Emerging Technology & Digital Forensics	50% Written Assignment 50% Written Assignment	Week 8 Sem 2 Week 12 Sem 2
SCI647 Case Studies in Forensic Science	60% Oral Assessment 40%Written Assignment	Week 9 Sem 2 Week 9 Sem 2
SCI638 Research Project	Pass/Refer Portfolio 75% Dissertation 25% Presentation	Week 6 Sem 1 Week 10 Sem 2 Week 13 Sem 2
SCI651 Professional Practice & Expert Witness	50% Written Assignment 50% Oral Assessment	Week 7 Sem 2 Week 11 Sem 2

Assessment and award regulations

Derogations
None

Non Credit Bearing assessment
None

Borderline Classifications (Undergraduate programmes)
In considering borderline cases the Assessment Board shall raise the classification to the next level if all of the following criteria are met:

- At least 50% of the credits at level 6 fall within the higher classification.
- All level 6 modules must have been passed at the first attempt.
- The mark achieved for the SCI638 Research Project module is within the higher classification.

Ordinary Degrees
Any 60 credits at Level 6 from the BSc (Hons) Forensic Science and the BSc (Hons) Forensic Science with Placement Year can contribute towards an Ordinary degree.

Accreditation

This section will be updated following the provisional accreditation meeting with the Chartered Society of Forensic Science.

Quality Management

All provision is expected to comply with the University processes for quality assurance, the QAA Quality Code and any specific PSRB requirements to ensure the quality of the learning and teaching on the programme. The University uses the following mechanisms to help evaluate, enhance and review programmes delivery;

- Student Evaluation of Module Questionnaire
- Student Voice Forum
- Individual student feedback
- Student representatives
- Continuous Programme Monitoring and Enhancement reports

- Periodic review and re-validation process
- External Examiner reports
- PSRB requirements and accreditation activities
- National Student Survey (NSS)

Support for Students

The University has a range of departments that offer support for students such as:

- Library & IT Resources
- Inclusion Services
- Careers Service
- Chaplaincy
- Counselling & Wellbeing
- Student Funding and Welfare
- Student Administration

Please access the University website at www.glyndwr.ac.uk to find out more about the Departments.

Wrexham Student Union offers support for students, please access their website at to find out more. https://www.wrexhamglyndwrsu.org.uk/

All students at Wrexham University are allocated a Personal Tutor whose main responsibility is to act as the first point of contact for their personal students and to provide pastoral and academic support throughout their studies at the University.

The Applied Science Team also host weekly Academic and Professional Skills workshops supported by various professional services staff across the University where students can get advice on their studies, academic support, guidance with careers or information about post-graduate progression.

Equality and Diversity

Despite its small size, the Forensic Science programme team is composed of academic and operational staff members from diverse backgrounds both in terms of their academic and professional experience, and their personal attributes. This makes for a dynamic and varied student experience that prioritises inclusive practice and aims to highlight diverse profiles of STEM practitioners, particularly with identities from historically under-represented groups. Staff members are heavily involved in the academic committees at the university level including the Equality Committee, University Race Equality Discussion Group, LGBTQ+ Network, White Ribbon Action Group and Sustainability Committee. Within the programme team, there is a focused and well-defined shared mission and a supportive culture amongst the team members.

Wrexham University is committed to providing access to all students and promotes equal opportunities in compliance with the Equality Act 2010 legislation. This programme complies fully with the University's Equality and Diversity Policy, ensuring that everyone who has the potential to achieve in higher education is given the chance to do so. Please click on the following link for more information about equality and diversity