Please read this Handbook in conjunction with the University’s Student Handbook.

All course materials, including lecture notes and other additional materials related to your course and provided to you, whether electronically or in hard copy, as part of your study, are the property of (or licensed to) UCLan and MUST not be distributed, sold, published, made available to others or copied other than for your personal study use unless you have gained written permission to do so from the Head of School. This applies to the materials in their entirety and to any part of the materials.
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1. Welcome to the course
The School of Forensic and Applied Sciences at the University of Central Lancashire provides undergraduate education in the areas of Forensic Science, Police and Criminal Investigation and Fire. It offers six main areas of specialist education within these programmes: forensic investigation (crime scene investigation, laboratory analysis and evidence interpretation), forensic biology, forensic anthropology, forensic chemistry, policing and fire. It has invested significantly in staff and physical resources in these six areas since its establishment (initially as the Centre for Forensic Science) in September 2000. In the time since its inception, it has successfully established itself as the largest provider of higher education in this field in the UK and now hosts some 1,500 undergraduate students and over 90 academic members of staff. Its specialist facilities, laboratories and equipment resources are arguably the best of any UK University.

The School has expanded its educational provision to the taught postgraduate arena through the validation and delivery of one-year MSc programmes in areas of particular staff expertise. The areas currently offered include Criminal Investigation, DNA Profiling, Document Analysis, and Forensic Anthropology to name but a few. I am pleased to welcome you to the start of your studies on these courses and also to the School. We are proud of our staff, courses and our students and I hope that, as well as benefiting from your postgraduate education, you will enjoy your time with us in the School.

This booklet contains, in addition to academic information, details of formal routes by which you can make your views of your educational provision known to us, but we also welcome more informal feedback and communication from our students. Please be assured that I and the other staff of the School will do our best to be available to you and responsive to your needs. As you come to know us over the next few weeks and months, I hope you will find us and the School provide a friendly and supportive environment for you and your studies.
Welcome.

Head of School of Forensic and Applied Sciences

1.1 Rationale, aims and learning outcomes of the course

Aims of the Programme

The aims of the programme are to:

- provide an in-depth study of the area of DNA Profiling
- develop the critical and analytical skills involving the principles, practices and techniques of that specialist topic.
- develop competence in research methods and presentation of information.
- develop skills in solving problems either independently or as a team member to a level commensurate to the master’s level.

Learning Outcomes of the Programme
The programme provides opportunity for learners to achieve the following outcomes:
Knowledge and Understanding

- Analyse a problem involving the specific aspects of the specialist topic studied and be able to design and implement a suitable solution.
- Present forensic information and be aware of the role of the expert witness.
- Apply data handling skills, effectively plan a project and use documentation skills in an appropriate manner.
- Design, plan and implement solutions to problems in the specialist topic and be capable of analysing the effectiveness of such solutions.
- Develop and write a research project within guidelines and be able to assess the success of such a project.
- Apply the skills developed on the course to a relevant individual project.
- Synthesise solutions to problems involving several aspects of the specialist topic either independently and/or as a team member.

Subject Specific Skills

- Implement DNA Profiling solutions to complex problems.
- Effectively communicate DNA Profiling solutions with both experts and non-experts.
- Research information from literature/manuals/internet.
- Critically evaluate different potential solutions to a problem.

Thinking Skills

- Evaluate technical and non-technical information
- Plan and conduct a practical research project.
- Communicate results effectively
- Assimilate ideas quickly.

Other skills relevant to employability and personal development

- Work to deadlines.
- Work in a team.
- Work independently under minimum supervision.
- Generate original ideas.

The course is accredited by the Chartered Society of Forensic Sciences UK.

1.2 Course Team

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sibte Hadi</td>
<td>Course Leader</td>
<td><a href="mailto:shadi@uclan.ac.uk">shadi@uclan.ac.uk</a></td>
<td>Ext 4395</td>
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<tr>
<td>Will Goodwin</td>
<td>Lecturer</td>
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<td>Ext 4254</td>
</tr>
<tr>
<td>Judith Smith</td>
<td>Lecturer</td>
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<td>Ext. 4257</td>
</tr>
<tr>
<td>Sue Carney</td>
<td>Lecturer</td>
<td><a href="mailto:SCarney@uclan.ac.uk">SCarney@uclan.ac.uk</a></td>
<td>Ext. 3493</td>
</tr>
</tbody>
</table>

1.3 Expertise of staff

Sibte Hadi: Hadi has a background in the areas of forensic medicine and molecular genetics. He undertook his degree in medicine in Pakistan and followed it with a PhD from the University of Glasgow. Before joining the School he worked at Islamabad University as
Assistant Professor in Forensic Medicine and then at the Department of Biochemistry at the Louisiana State University Health Sciences Centre, USA, where he carried out research in genetics of ageing in humans through a large scale sequencing project. His research interests are in human identification, genome sequencing, Y chromosome analysis, quality assurance/control and population genetics.

Will Goodwin: Will's background is in the area of molecular genetics, he undertook a BSc at the University of Leicester and followed this with a PhD from the University of Glasgow. Before joining the School he worked in the Department of Forensic Science and Medicine at the University of Glasgow for eight years where he carried out both research and casework. His research interests are in the extraction and analysis of ancient DNA, disaster victim identification and population genetics.

Judith Smith: Judith has a diverse background in molecular genetics ranging from population genetics, gene mapping and developmental biology. Having obtained a PhD from the University of Cambridge in 1996, studying population genetics of Soay sheep on the remote Scottish islands of St Kilda, she has since carried out post-doctoral research projects at the Roslin Institute (Edinburgh), the University of Glasgow and Lancaster University. She joined the School in January 2006 and her current interests are in molecular genetics and forensic entomology.

Sue Carney: Sue is a consultant forensic biologist and professional member of the Chartered Society of Forensic Sciences. Her specialisms include body fluid testing, DNA interpretation, blood pattern analysis, fabric damage assessment, Bayesian forensic interpretation and the application of quality standards. Her areas of special interest include sexual offences and cold cases. Sue was a senior forensic scientist, site quality lead and internal auditor at the former Forensic Science Service until closure of its Chorley laboratory in 2011, when she established the independent consultancy, Ethos Forensics.

You might like to visit the staff page for the teaching team member for more information.

1.4 Academic Advisor
You will be assigned an Academic Advisor who will provide additional academic advice and support during the year. They will be the first point of call for many of the questions that you might have during the year. Your Academic Advisor will be able to help you with personal development, providing insight and direction to enable you to realise your potential.

1.5 Administration details
Course Administration Service provides academic administration support for students and staff and are located in the following hub which open from 8.45am until 5.15pm Monday to Thursday and until 4.00pm on Fridays. The hub can provide general assistance and advice regarding specific processes such as extenuating circumstances, extensions and appeals.

Foster Building
Foster Hub
Forensic and Applied I Sciences
1.6 Communication

The University expects you to use your UCLan email address and check regularly for messages from staff. If you send us email messages from other addresses they risk being filtered out as potential spam and discarded unread. Normally we tend to communicate with you through the UCLan email address. The staff makes every effort to reply promptly. Staff gives appointments through email or via starfish. The normal office hours are 9 AM to 5 PM.

1.7 External Examiner

The External Examiner to your course helps to ensure that the standards of your course are comparable to those provided at other higher education institutions in the UK. The name, their position and home institutions can be found below. If you wish to make contact with your External Examiners, you should do this through your Course Leader and not directly. You can access the external examiners report via the Course site on elearn.

The External Examiner for MSc DNA Profiling is Dr Eleanor Graham, Senior Lecturer in the Department of Applied Sciences, Northumbria University.

2. Structure of the course

2.1 Overall structure

The full time route requires you to complete 3 modules in two approximately 12 weeks semesters and complete the research project in the summer semester which is normally of a 16 weeks duration. Part time option is also available. In the part time route you are required to only take two modules in each semester during the first year and then complete the remaining two modules and the research project in the second year. This is flexible and you can start your project work in the first year as well. There are a number of placements available every year for conducting the research projects but these are not permanent and change from year to year. The placements away from the Preston campus mean that you will need to cater for your accommodation and subsistence yourself.
2.2 Modules available
Each module is a self-contained block of learning with defined aims, learning outcomes and assessment. A standard module is worth 20 credits. It equates to the learning activity expected from one sixth of a full-time undergraduate year. Modules may be developed as half or double modules with credit allocated up to a maximum of 120 credits per module.

There are two modules in common to all the MSc courses: Research Methods (FZ4001) in Semester 1 and MSc Research Project (FZ4003) in Semester 3. In FZ4003 the projects are relevant to the respective courses.

The content of the modules are outlined below.

FZ4201 Forensic Genetics I
The module will introduce you to the principles, methods and techniques of molecular biology that are relevant to current DNA profiling within a forensic context. Essential principles of molecular biology and genetics relevant to DNA profiling will be covered and applied to technologies relevant to current DNA profiling techniques and strategies.

FZ4202 Forensic Genetics II
The module familiarizes you with current DNA profiling techniques and with the analysis/interpretation of DNA profiles. You will develop a critical understanding of the equipment and procedures surrounding forensic DNA profiling. In particular, the module will impart practical skills in the handling of different Genetic Analyzers and relevant software's. You will gain knowledge within the wider context of potential developments in this area and will also learn through the analysis of mock cases.
FZ4001 Research Methods
Scientists are required to have a wide range of skills beyond the expertise in their specialist subject. This module provides the necessary skills in scientific writing, referencing, project management and data analysis that are required in professional roles and further study.

FZ4004 Laboratory Management and Quality Assurance
In this module you, working in a small group, will develop both protocols, best practice and quality assurance procedures for a consultancy in their specialist field. You will then undertake simulated casework as a consultancy and present their findings to professional forensic standards. Examples of the type of casework that may be involved include, applications of DNA analysis in human identification

FZ4002 Expert Witness in the Legal Process
Communication skills are vital for a forensic scientist to pass on important information. Nowhere is this more important than when acting in the capacity of an expert witness. This module provides background and training in these important areas.

FZ4203 Evaluation of Genetic Data
This module is centred on the statistical analysis and interpretation of genetic data, and on the evolutionary and population genetics that influence the frequencies of these markers. This module is essential for you to place DNA profiling results in the correct context for interpretation and presentation in reports or in court through testimony.

FZ4003 Research Project
You will undertake a project which uses and enhances many of the skills developed during the course. The majority of students will undertake their project at the University, but the opportunity will exist for students to do their project at other institutions. Following the conclusion of the work, you will complete a report on the project, maintain a laboratory note book as well as give a presentation of your findings within the university or at a scientific conference.

2.3 Course requirements
The students require an overall 2:2 in their under graduate degrees to enter the course. It is beneficial if the students have taken biological sciences, chemistry, molecular biology, genetics and statistics as under graduate courses but it is not necessary and each application is evaluated before a decision is made. International students need to submit their transcripts for evaluation and acceptance. International students need a grade acceptable to the home office for visa issuance. Currently this is a 6.5 in each section but can change and applicants are encouraged to look at home office website for this purpose. All the modules are compulsory. We expect the students to match the contact hours.

2.4 Module Registration Options
Discussions about your progression through the course normally take place in February each year. It is an opportunity for you to make plans for your study over the next academic year. The course team will tell you about the various modules / combinations available and you will both agree on the most appropriate (and legal) course of study for you. You must
consult with your designated academic advisor if you feel you need extra support for your course.

2.5 Study Time
2.5.1 Weekly timetable
A timetable will be available once you have enrolled on the programme, through the student portal.

2.5.2 Expected hours of study
20 credits is a standard module size and equals 200 notional learning hours. Contact hours vary from module to module – in the first Semester the contact is typically around 16 hours per week, dropping to around 12 hours in Semester 2 and by semester 3 there are very few timetabled hours. However, as the amount of timetables contact decreases through the Semesters the requirement for self-directed study increases. Throughout the course there is a requirement to spend a considerable amount of time reading around the subject and completing coursework/exam preparation.
On average, you should be planning to do between 36 and 40 hours per week. Any lesser commitment is unlikely to produce a good degree. You should bear this in mind if you intend to undertake part-time employment or pursue other interests outside the curriculum. A typical week may have around 15 hours of class contact (lectures, tutorials workshops or practicals) so you need to spend at least as much time in independent study.
There is no check on this and there is no direct test of whether you were doing the private study – but it will become apparent through your assessments if you have not put in the right amount of work. Developing the self-motivation and discipline needed to succeed is an important life skill and being able to work independently is a key graduate skill that employers will be looking for.

2.5.3 Attendance Requirements
You are required to attend all timetabled learning activities for each module. Notification of illness or exceptional requests for leave of absence must be made to:
Foster Hub or
Course Leader: Sibte Hadi email: shadi@uclan.ac.uk

International students should be aware of their responsibilities under the Visas and Immigration (UKVI) Points Based System (PBS) - you MUST attend your course of study regularly; under PBS, UCLan is obliged to tell UKVI if you withdraw from a course, defer or suspend your studies, or if you fail to attend the course regularly.

3. Approaches to teaching and learning
3.1 Learning and teaching methods
Forensic Science is a practical-based subject that covers a wide range of disciplines. The School therefore uses a diverse portfolio of teaching and assessment methods to reflect the nature of this subject. There are formal lectures followed up by small group tutorials in which the subject of the lecture is explored in detail. Practical skills are developed through practical sessions which may incorporate simulations, laboratory experiments or case studies based on real investigations of major crimes. You are also encouraged to engage in independent study.
University staff delivers most of the course. Where appropriate external experts in their own fields are invited to lecture the students.

As with all university education you are responsible for your own learning; the lectures are merely the starting point and you will have to undertake a substantial amount of study in order to succeed.

The School has specialist teaching facilities such as crime scene houses, forensic investigation laboratories and dedicated forensic biology and forensic chemistry laboratories and also houses an extensive anthropological collection.

The aim of the School is to promote deep and active learning and for the students to achieve an appropriate balance between (a) the accumulation of subject specific knowledge (b) the understanding of subject-specific concepts (c) the application of these and (d) the development of general investigative and presentational skills.

The course is delivered through lectures, tutorials, workshops and practicals. Many activities are group based. This means that you have to prepare for all the teaching sessions and also study the details later. We encourage the students to read published papers regularly and also attend conferences as time allows. You must learn how to access and use elearn. All teaching materials for all modules are populated on elearn in advance. Some module leaders place the course works on elearn in advance as well.

3.2 Study skills
Key study skills are provided in the Research Methods module. The School of Forensic and Applied Sciences also has a dedicated team who run Academic Skills Support (ASk) giving one-to-one targeted support to help your get the most out of your feedback, and covers everything from library research and writing skills, through to maths skills and critical thinking. The team can be contacted by email at FASasksupport@uclan.ac.uk

There are a variety of other university-wide services including WISER (Study Skills Support) and Library Information Services (LIS) who can provide a huge range of IT and information skills training, details can be accessed at http://www.uclan.ac.uk/students/study/study_support.php

We support your learning through one on one discussions. You must take an appointment with the module tutor or the tutor beforehand for this purpose. For some activities we encourage the students to use a service called WISER that helps you learn writing essays or giving presentations etc.

WISER http://www.uclan.ac.uk/students/study/wiser/index.php

Study Skills - ‘Ask Your Librarian’

https://www.uclan.ac.uk/students/support/study/it_library_trainer.php

You can book a one to one session with a subject Librarian via Starfish. These sessions will help with questions such as “My lecturer says I need a wider variety of sources in my references, what do I do?”
"I need to find research articles, where do I start?"
"How do I find the Journal of ...?"
"How do I use RefWorks?"
3.3 Learning resources
3.3.1 Learning and Information Services (LIS)
The best place to start when exploring the Library resources available to you is;
• Your ‘Subject Guide’ can be found in the Library Resources
• Your ‘My Library’ tab in the Student Portal
• Library search

In addition to the generic learning resources the School has invested heavily in equipment and facilities to ensure that you are exposed to and can use the latest equipment during your studies.

3.3.2 Electronic Resources
A wide range of material is available electronically, including most relevant peer-reviewed journals, text books, Microsoft software (e.g. Word and Excel), population genetics softaware’s and databases. Course material will be made available through the elearn environment.

3.4 Personal development planning
While you are studying for your MSc, you will learn many new concepts, analyse them, evaluate them and apply them. You already expect to learn lots of facts and techniques to do with your subject specialism, but you will also learn other things of which you might not be aware. You will learn how to study more independently than you may have done previously, how to work with other people, how to manage your time to meet deadlines, and so on. If you are to be an employable individual it is vital that you can list the skills employers value in your CV.

Employers are looking for skills such as:
• self-organisation
• team work
• good written communication
• good oral communication
• problem solving

In order to help you in this area, the school has introduced a system that aims to:
• help you to identify the skills you should be developing,
• help you to identify the ones you are weak in, and
• take action to improve those skills.

This approach can broadly be described as Personal Development Planning, and can be defined as:
A structured and supported process undertaken by an individual to reflect upon their own learning, performance and / or achievement and to plan for their personal, educational and career development.

The University puts a high priority on your personal development, and so keeping a record of your achievements is encouraged and will help when you are applying for jobs. When you ask staff for a reference, they could use this information to help them provide more rounded detail.
3.5 Preparing for your career

The University has active contacts with several employers, such as the Police’s scientific support in Lancashire. In addition, placements have been arranged when possible, which has given students exposure to the work environment. Students from this course have gone onto work in Forensic Science laboratories in the UK, USA and other countries. Our graduates have also gone on to further study, e.g. PhD-level research. Other students have used the skills developed as part of their studies to pursue unrelated careers. Careers advice is provided as part of the course. You can find comments from some past students on the course page: http://www.uclan.ac.uk/courses/msc_dna_profiling.php

4. Student Support

Information on the support available is at: https://www.uclan.ac.uk/students/

There is a wide range of support available from both within the School and University-wide. Any problems you may choose to discuss with a member of staff, academic or otherwise, will be treated in strict confidence and will not be divulged to anyone without your permission (including parents). It is highly unlikely that you will have a problem we have not encountered before.

The important thing is not to sit on a problem and hope it will go away – it will not! As to whom you should ask, that depends on the nature of the problem:

• Learning/teaching in a module. Each module has a Module Tutor – a member of staff responsible for that module. The Module Tutor will be your first port of call for questions about the learning/teaching within the module.

• Which options to take – structure of your course. These are questions for your Academic Advisor or Course Leader. He or she will meet with you at the start of the course and will remain your Academic Advisor throughout your time throughout the course.

• Welfare, money, housing, health, personal problems. The “i” is a central Student Information Centre and your first point of contact.

http://www.uclan.ac.uk/students/study/library/the_i.php

• You can obtain information on a wide range of topics including Council Tax Exemption Certificates, Bank and Confirmation of Study Letters, Portable Financial Credits, (continuing students only, Printing and Printer Credit, UCLan Cards, the ‘i’ shop and UCLan Financial Support Bursary (first year students only). They can also direct you to medical and counselling services. Links to further areas of support can be found here:
http://www.uclan.ac.uk/students/

• Administrative questions. The School Office is in the Foster Hub: Room FB058. They can help you with your academic records and other administrative matters.
4.1 Academic Advisors
You will be appointed an Academic Advisor – this person will typically be Course Leader. You can also approach Module Tutors for assistance. Because of the small size of the class and the relative high contact, especially in the first semester, you will typically have a lot of opportunities to talk with your Module Tutors and Academic Advisor.

4.2 Students with disabilities
If you have a disability that may affect your studies, please either contact the Disability Advisory Service at disability@uclan.ac.uk, or let one of the course team know as soon as possible. With your agreement information will be passed on to the Disability Advisory Service. The University will make reasonable adjustments to accommodate your needs and to provide appropriate support for you to complete your study successfully. Where necessary, you will be asked for evidence to help identify appropriate adjustments. The School has a named lead for students with disabilities – Mark Toogood. Mark can be contacted directly for further advice at MToogood@uclan.ac.uk or on extension 3528.

4.3 Students’ Union
The Students’ Union offers thousands of volunteering opportunities ranging from representative to other leadership roles. We also advertise paid work and employ student staff on a variety of roles. You can find out more information on our website: http://www.uclansu.co.uk/

5. Assessment

5.1 Assessment Strategy
The courses are assessed by both coursework and examination. To ensure that you do not have an excessive amount of assessment at any one time, the coursework assessment will take place throughout the course.

Semester 1 of the course is designed to ensure that you have the basic molecular biology skills like DNA extraction/PCR (FZ4201) and specialist skills like working on DNA sequencers and relevant software’s, assessment of electropherograms, DNA mixture analysis etc. (FZ4202). These skills are needed to obtain an MSc in DNA Profiling. It is important that you develop a range of skills that will be of benefit when you gain employment after the course. Research skills are developed through attending FZ4001. This means that you develop in the first semester in the areas of presentations, report writing, analysis of data, electropherogram analysis and experimental problem solving.

You will prepare expert witness reports during the Research Methods and Expert Witness in the Legal Process (FZ4002) modules and again in the Laboratory Management and Quality Assurance module (FZ4004) (if taken) and Research Project module (FZ4003). Report writing will take several different forms to ensure that you develop different techniques according to the nature of the task being undertaken. These consist of the conventional report, articles of prescribed length, etc. In addition there will be problem-solving tasks that will involve literacy searches, use of the Internet and case studies.

Modules will be assessed by coursework assignments and/or an examination. Each assignment will be substantial and will be based upon work undertaken in laboratory and/or in workshop/tutorial sessions. Modules assessed by coursework only will have additional
assignments that may take the form of a mini project. A schedule of assignments will be
drawn up ensuring that there is no more than one assignment in a particular week, whenever
possible. The deadline for handing in of assignments will be rigorously adhered to as would
be expected in a professional working environment. There is one theory examination during
the course for the module FZ4202 at the end of first semester.

The MSc Research Project (FZ4003) is conducted in three main stages. The first part
involves preparing a project proposal in the second semester (as part of FZ4001 – Research
Methods). The second part involves assessment of your progress during the project itself,
which will be conducted by reviewing draft chapters of the dissertation. The final part is the
assessment of a dissertation which is double marked by the university assigned
tutors/supervisors and the laboratory note book which serves as a record of all experiments
and the results obtained during the project.

5.2 Notification of assignments and examination arrangements
Each assessment will have an assignment brief and marking criteria, the date and time of
assessment deadlines and instructions for submission will be in the assignment brief which
can be accessed through the elearn module space.
Examinations are organised centrally. Exam weeks are clearly marked in the Academic
Calendar exam times and venues should appear on your electronic timetable. Students with
additional needs may have separate exam arrangements to cater for their individual
circumstances and will be notified by the Foster Hub of any arrangements.

5.3 Feedback on assessments
UCLan is committed to giving you clear, legible and informative feedback for all your
assessments (Academic Regulations). You are expected to review and reflect on your
feedback and learn from each experience to improve your performance as you progress
though the course.

You will be provided with generic feedback for in-module formative and summative elements
of assessment which contribute to a module within 15 working days of the scheduled
submission or examination date. Generic feedback on end of module assessment and
dissertations will be made available within 15 days of publication of results. Feedback may
be oral, written, posted on a website or other.

5.4 Referencing
Work submitted for an assessment must be in your own words. It is important that you
acknowledge the source of material used in your assessments.
Whenever you refer to, summarise or paraphrase information from another individual (e.g. a
book or journal article) you must acknowledge the source of this information by correctly
citing the author and publication. There are several different referencing formats, the most
common being Harvard and Numeric. Individual modules may use different referencing
formats relevant to the scientific discipline and tutors will advise you accordingly.

5.5 Confidential material
Confidential material may be generated/used as part of the Research Project. Students will
be required to obtain appropriate ethical clearance for their Research Projects and have
ethical and legal responsibilities to respect confidentiality and maintain the anonymity of
individuals and organisations within their assignments

5.6 Cheating, plagiarism, collusion or re-presentation
Please refer to the information included in section 6.6 of the University Student Handbook for full definitions. The University uses an online Assessment Tool called Turnitin. A pseudo-Turnitin assignment will be set up using the School space on Blackboard to allow students to check as many drafts as the system allows before their final submission to the ‘official’ Turnitin assignment. Students are required to self-submit their own assignment on Turnitin and will be given access to the Originality Reports arising from each submission. In operating Turnitin, Schools must take steps to ensure that the University’s requirement for all summative assessment to be marked anonymously is not undermined and therefore Turnitin reports should either be anonymised or considered separately from marking. Turnitin may also be used to assist with plagiarism detection and collusion, where there is suspicion about individual piece(s) of work.

5.6 How do I know that my assessed work had been marked fairly?
Assessment is an integral part of the course. Module staff work closely together to design assessments, agree the marking criteria and approve final versions of assessments to ensure that these are appropriate. The criteria for assessment will be communicated to you clearly during the module teaching.

All module staff engage in development and training in assessment, marking and feedback. Once the assessments have been completed the module team will discuss the assessment methods and marking criteria, prior to starting to mark, so that there is a common understanding of what is expected of students. All assessed modules have moderation built into the marking process. Moderation involves sampling students’ assessed work to make sure that the learning outcomes and agreed marking criteria have been interpreted and applied in the same way. This ensures that you and your fellow students are treated equitably and that the academic standards are applied consistently. During the marking process the module leader will co-ordinate moderation to ensure that at least 10% of assessed work (or a minimum of three pieces) has been reviewed by other markers and any concerns about consistency or accuracy addressed with the whole module team. Your work may or may not be part of this sample, but the processes for developing assessments and marking criteria as well as moderation mean that you can be confident that teaching staff are marking assessments to the same criteria. Module teams may then use feedback from moderation to improve clarity about the nature and purpose of future assessment, or to make changes if required.

Modules are also moderated externally. The module leader will arrange for the external examiner to receive a sample of work for review and comment. External examiners cannot change individual grades but can act as ‘critical friends’ and confirm that marking standards are in line with other, similar courses in the sector. If, on reviewing the sample, external examiners feel that the marking criteria have not been applied consistently the work of the whole cohort will be reviewed.

6. Classification of Awards
The University publishes the principles underpinning the way in which awards and results are decided in Academic Regulations. Decisions about the overall classification of awards are made by Assessment Boards through the application of the academic and relevant course regulations.

7. Student Feedback
You can play an important part in the process of improving the quality of this course through the feedback you give. In the past feedback from students has led to a change in the timing of assessments as well as the amount of assessed coursework. Feedback is possible through Module Evaluation Questionnaires and through the Course Representative. In addition, informal feedback is welcomed.
7.1 Student Staff Liaison Committee meetings (SSLCs)
Details of the Protocol for the operation of SSLCs is included in section 8.2 of the University Student Handbook. Each course has an elected representative that will raise any issues and also provide positive feedback at Staff-Student Liaison Committees, which take place each semester.
8.1 Programme Specification(s)

**UNIVERSITY OF CENTRAL LANCASHIRE**

**Programme Specification**

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided.

*Sources of information on the programme can be found in Section 17*

<table>
<thead>
<tr>
<th>1. Awarding Institution / Body</th>
<th>University of Central Lancashire</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Teaching Institution and Location of Delivery</td>
<td>University of Central Lancashire, Preston Campus</td>
</tr>
<tr>
<td>3. University School/Centre</td>
<td>Forensic &amp; Applied Sciences</td>
</tr>
<tr>
<td>4. External Accreditation</td>
<td>Chartered Society of Forensic Sciences, UK</td>
</tr>
<tr>
<td>5. Title of Final Award</td>
<td>MSc. DNA Profiling, Postgraduate Diploma DNA Profiling, Postgraduate Certificate DNA Profiling</td>
</tr>
<tr>
<td>6. Modes of Attendance offered</td>
<td>Full time, Part time</td>
</tr>
<tr>
<td>7a) UCAS Code</td>
<td></td>
</tr>
<tr>
<td>7b) JACS Code (only required for NEW programmes)</td>
<td>F410</td>
</tr>
<tr>
<td>8. Relevant Subject Benchmarking Group(s)</td>
<td></td>
</tr>
<tr>
<td>9. Other external influences</td>
<td>Chartered Society of Forensic Sciences, UK; International Society of Forensic Genetics and Scientific Working Group In DNA Analysis Methods (SWGDAM)</td>
</tr>
<tr>
<td>10. Date of production/revision of this form</td>
<td>April 2018</td>
</tr>
<tr>
<td>11. Aims of the Programme</td>
<td></td>
</tr>
<tr>
<td>• provide an in-depth study of the area of DNA Profiling</td>
<td></td>
</tr>
<tr>
<td>• develop critical and analytical skills involving the principles, practices and techniques of that specialist topic.</td>
<td></td>
</tr>
<tr>
<td>• develop competence in research methods and presentation of information.</td>
<td></td>
</tr>
</tbody>
</table>
• develop skills in solving problems either independently or as a team member to a level commensurate to the master's level.
12. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

A1. Analyse a complex problem involving specific aspects of DNA Profiling and be able to design and implement a suitable solution.
A2. Present forensic information and be aware of the role of the expert witness.
A3. Apply data handling skills, effectively plan a project and use documentation skills in an appropriate manner.
A4. Design, plan and implement solutions to complex problems in DNA Profiling and be capable of analysing the effectiveness of such solutions.
A5. Develop and write a research project within guidelines and be able to assess the success of such a project.
A6. Apply the skills developed on the course to a relevant individual project.
A7. Synthesise solutions to problems involving several aspects of DNA Profiling either independently and/or as a team member.

Teaching and Learning Methods

Forensic Science is a practical-based subject that covers a wide range of disciplines. The School therefore uses a diverse portfolio of teaching and assessment methods to reflect the nature of this subject. There are formal lectures followed up by small group tutorials in which the subject of the lecture is explored in detail. Practical skills are developed through practical sessions which may incorporate simulations, laboratory experiments or case studies based on real investigations of major crimes. Students are also encouraged to engage in independent study.

Assessment methods

Presentations; Theory Examination; Mini Project; Poster presentations.

B. Subject-specific skills

B1. Implement DNA Profiling solutions to complex problems.
B2. Effectively communicate DNA Profiling solutions with both experts and non-experts.
B3. Research information from literature/manuals/internet.

Teaching and Learning Methods

As with all university education you are responsible for your own learning; the lectures are merely the starting point and you will have to undertake a substantial amount of study in order to succeed. The School has specialist teaching facilities such as crime scene houses, forensic investigation laboratories and dedicated forensic biology and forensic chemistry laboratories and also houses an extensive anthropological collection.

The aim of the School is to promote deep and active learning and for the students to achieve an appropriate balance between (a) the accumulation of subject specific knowledge (b) the understanding of subject-specific concepts (c) the application of these and (d) the development of general investigative and presentational skills. Most teaching is done through lectures, tutorials and practicals.

Assessment methods

Report generation; Presentation; Expert Testimony; Final research project thesis

C. Thinking Skills

C 1. Evaluate technical and non-technical information
C 2. Plan and conduct a practical research project
C 3. Communicate results effectively
C 4. Assimilate ideas quickly.

Teaching and Learning Methods

While students are studying for MSc, they will learn many new concepts, analyse them, evaluate them and apply them. Students are expected to learn lots of facts and techniques to do with the subject specialism, but they will also learn other things of which they might not be aware. Students will learn how to study more independently than they may have done previously, how to work with other people, how to manage your time to meet deadlines, and so on. Most teaching is done through lectures, tutorials and practicals but also independent study and workshop sessions are delivered.

Assessment methods

Evaluative Essays; Final research project thesis; Practice based evaluation
D. Other skills relevant to employability and personal development

D 1. Develop an ability to work to deadlines.
D 2. Develop team working skills.
D 3. Be able to work independently under minimum supervision
D 4. Be able to generate original ideas.

Teaching and Learning Methods

Most teaching is done through lectures, tutorials and practicals but also independent study and workshop sessions are delivered.

Assessment methods

Evaluative essays; Practice based evaluation; Final Research thesis; Group project report

13. Programme Structures*

<table>
<thead>
<tr>
<th>Level</th>
<th>Module Code</th>
<th>Module Title</th>
<th>Credit rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 7</td>
<td>FZ4001</td>
<td>Research Methods</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>FZ4002</td>
<td>The Expert Witness in the Legal Process</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>FZ4003</td>
<td>Research Project</td>
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<tr>
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<td>FZ4004</td>
<td>Laboratory Management and Quality Assurance</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>FZ4201</td>
<td>Forensic Genetics I</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>FZ4202</td>
<td>Forensic Genetics II</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>FZ4203</td>
<td>Evaluation of Genetic Data</td>
<td>20</td>
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14. Awards and Credits*

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Masters Degree in DNA Profiling</td>
<td>Requires 180 credits at Level 7</td>
</tr>
<tr>
<td>Postgraduate Diploma in DNA Profiling</td>
<td>Requires 120 credits at Level 7</td>
</tr>
<tr>
<td>Postgraduate Certificate in DNA Profiling</td>
<td>Requires 60 credits at Level 7</td>
</tr>
</tbody>
</table>

15. Personal Development Planning

This is a supported process undertaken by an individual to reflect upon their own learning, performance and / or achievement and to plan for their personal, educational and career development. PDP is delivered and monitored through project modules and the academic advisor system. Students are provided with a PDP handbook and an introductory lecture on it during induction week.

16. Admissions criteria *

(including agreed tariffs for entry with advanced standing)

*Correct as at date of approval. For latest information, please consult the University’s website.

Applicants will normally be required to have:

2:2 Hons Degree or equivalent qualifications and experience

Applicants will be required to have a minimum level of proficiency in English Language equivalent to IELTS grade 6 with no subscore lower than 5.5.

Please consult the website or UCLAN admissions department for the most up to date requirements.

17. Key sources of information about the programme

- University website (www.uclan.ac.uk)
- School website (www.uclan.ac.uk/forensic)
- Course Leader: Dr. Sibte Hadi
### 18. Curriculum Skills Map

Please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed

<table>
<thead>
<tr>
<th>Level</th>
<th>Module Code</th>
<th>Module Title</th>
<th>Core (C), Compulsory (COMP) or Option (O)</th>
<th>Knowledge and understanding</th>
<th>Programme Learning Outcomes</th>
<th>Subject-specific Skills</th>
<th>Thinking Skills</th>
<th>Other skills relevant to employability and personal development</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A1</td>
<td>A2</td>
<td>A3</td>
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<td>A5</td>
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<td>LEVEL 7</td>
<td>FZ4001</td>
<td>Research Methods</td>
<td>COMP</td>
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<td>✓</td>
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<tr>
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<td>FZ4002</td>
<td>The Expert Witness in the Legal Process</td>
<td>COMP</td>
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<td>✓</td>
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<tr>
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<td>FZ4003</td>
<td>Research Project</td>
<td>COMP</td>
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<td>✓</td>
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<tr>
<td></td>
<td>FZ4004</td>
<td>Laboratory Management and Quality Assurance</td>
<td>COMP</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>FZ4201</td>
<td>Forensic Genetics I</td>
<td>COMP</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td></td>
<td>FZ4202</td>
<td>Forensic Genetics II</td>
<td>COMP</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>FZ4203</td>
<td>Evaluation of Genetic Data</td>
<td>COMP</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Note:** Mapping to other external frameworks, e.g. professional/statutory bodies, will be included within Student Course Handbooks.
19. **LEARNING OUTCOMES FOR EXIT AWARDS:**

For each exit award available, list learning outcomes relating to the knowledge and understanding, subject specific skills, thinking, other skills relevant to employability and personal development that a typical student might be expected to gain as a result of successfully completing each level of a course of study.

For example, for a standard BA/BSc (Hons) award the exit award learning outcomes for CertHE (Level 4) and DipHE (Level 5), BA/BSc (Level 6) should be included; for a postgraduate Masters, this would normally be PGDip and PGCert.

**Learning outcomes for the award of: PGCert in DNA Profiling**

A2. Present forensic information and be aware of the role of the expert witness.
A7. Synthesise solutions to problems involving several aspects of DNA Profiling either independently and/or as a team member.

B1. Implement DNA Profiling solutions to complex problems.
B2. Effectively communicate DNA Profiling solutions with both experts and non-experts.
B3. Research information from literature/manuals/internet.

C1. Evaluate technical and non-technical information
C3. Communicate results effectively
C4. Assimilate ideas quickly.

D1. Develop an ability to work to deadlines.
D2. Develop team working skills.
D4. Be able to generate original ideas.

**Learning outcomes for the award of: PG Diploma in DNA Profiling**

A1. Analyse a complex problem involving specific aspects of DNA Profiling and be able to design and implement a suitable solution.
A2. Present forensic information and be aware of the role of the expert witness.
A4. Design, plan and implement solutions to complex problems in DNA Profiling and be capable of analysing the effectiveness of such solutions.
A7. Synthesise solutions to problems involving several aspects of DNA Profiling either independently and/or as a team member.

B1. Implement DNA Profiling solutions to complex problems.
B2. Effectively communicate DNA Profiling solutions with both experts and non-experts.
B3. Research information from literature/manuals/internet.

C 1. Evaluate technical and non-technical information
C 3. Communicate results effectively
C 4. Assimilate ideas quickly.

D 1. Develop an ability to work to deadlines.
D 2. Develop team working skills.
D 4. Be able to generate original ideas.