Template C4

Programme Specification

Title of Course: *MSc Forensic Science (Analysis)*

Date first produced	01/01/2019
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Version number	4
Faculty	Faculty of Engineering, Computing and the Environment
School	School of Life Sciences, Pharmacy and Chemistry
Department	Department of Chemical and Pharmaceutical Sciences
Delivery Institution	Kingston University

This Programme Specification is designed for prospective students, current students, academic staff and employers. It provides a concise summary of the main features of the programme and the intended learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if they take full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes and content of each modules can be found in the course VLE site and in individual Module Descriptors.

SECTION 1:   GENERAL INFORMATION

Award(s) and Title(s): *Up to 10 pathways*	MSc Forensic Science (Analysis)
Intermediate Awards(s) and Title(s): *There are 4 Intermediate awards for each pathway*	PGDiploma PGCertificate
Course Code *For each pathway and mode of delivery*	
UCAS code *For each pathway*	N/A

Award(s) and Title(s): *Up to 10 pathways*	MSc Forensic Science (Toxicology)
Intermediate Awards(s) and Title(s): *There are 4 Intermediate awards for each pathway*	PGDiploma PGCertificate
Course Code *For each pathway and mode of delivery*	
UCAS code *For each pathway*	

RQF Level for the Final Award:	7
Awarding Institution:	Kingston University
Teaching Institution:	Kingston University
Location:	Penrhyn Road
Language of Delivery:	English
Modes of Delivery:	Full Time With Professional Placement
Available as:	
Minimum period of registration:	Full Time - 1 With Professional Placement - 2
Maximum period of registration:	Full Time - 2 With Professional Placement - 3
Entry Requirements:	**a. General Admissions Regulations** Candidates with a UK or UK equivalent (stated by NARIC) second class Bachelor Honour's degree in a

Forensic Science, Chemistry or related, Pharmacy or Life Science discipline are qualified to register for the MSc.

Candidates who do not qualify under the regulations above, but who have appropriate experience are still eligible to apply. A detailed description of appropriate experience and a statement of support from an employer should accompany the application. If these documents are satisfactory, the candidate will normally be interviewed (overseas applicants will often be interviewed by telephone/SKYPE).

British nationals/majority English-speaking nation nationals need a GCSE Grade C or above in English or an equivalent qualification, (see webpages for further details). Students who are not a national of a majority English speaking country or who have not completed an academic qualification equivalent to a UK Bachelor's degree in one are required to provide evidence of appropriate competence in use of the English Language, for example by having passed a recognised English Language examinations (or equivalent): e.g. British Council IELTS test.

b.   Admission with Advanced Standing

Normally, exemptions from the study of particular modules will only be granted only on the basis of relevant previous study at Masters level (RPL) or relevant experience (RPEL). Students wishing to gain admission to the course with advanced standing will be required to provide certificates, a course/module synopsis and a portfolio of evidence of their previous learning or work-based experience.

Students who have claimed a Diploma in the field will normally be allowed to apply for admission to MSc in the field provided that they do so within a period not normally exceeding 2 years.

Programme Accredited by:	To be submitted for accreditation to CSFS
QAA Subject Benchmark Statements:	Forensic Science Dec 2012
Approved Variants:	The approved variant from PR is that the PGCert will be in Analytical Chemsitry rather then a PGCert in Forensic Analysis, if the student does not pass a Forensic module i.e. CH7080 and LS7030 or CH7110.

Is this Higher or Degree Apprenticeship course?	

For Higher or Degree Apprenticeship proposals only	
Higher or Degree Apprenticeship standard:	
Recruitment, Selection and Admission process:	
End Point Assessment Organisation(s):	

SECTION 2: THE COURSE

A. Aims of the Course

The aims of the MSc programmes are:

- to provide students with an in-depth knowledge and understanding of the core elements of forensic science with specialisation in either forensic trace analysis or forensic toxicology;
- to equip students with problem-solving, practical, IT and key (transferable) skills derived from the collection, analysis, interpretation and representation of data and information in preparation for their careers in a variety of work environments;
- to give students an appreciation of the importance of the continuity of evidence from the crime scene to the court and an awareness of professional and ethical standards and practices (including quality assurance), and the importance of adhering to them;
- to provide the skills required for self-management and autonomy in the planning, organisation and conduct of an independent research project along with a critical awareness of and engagement with current research methods and techniques.

In addition, the aims of the professional placement module are:

- to provide experience of working in a professional environment that is relevant to the field of study and enhance career prospects through the development of a range of skills that enable students to present themselves effectively, network and make informed decisions about employment and career plans;
- to allow students to consolidate and apply the range of skills and knowledge acquired in the course of their studies to a work environment and to reflect on and develop these skills and knowledge further.

B. Intended Learning Outcomes

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills and other attributes in the Programme Learning Outcomes Matrix. The programme outcomes are referenced to the QAA subject benchmarks for (Forensic Science Benchmark Statement Dec 2012) and the Framework for Higher Education Qualifications in UK (2014), and relate to the typical student.

In addition, students who successfully complete the professional placement module will be able to:

- Relate academic theory to practice and apply knowledge and skills in a professional context
- Maintain an accurate account of work activity , reflect critically on the experience of the placement and evaluate their own personal and professional development
- Confidently present a critical understanding of the placement organisation and their experience within it
- Develop and practice key personal and employability skills and be able to show examples of the application of these skills including: self-awareness, communication, interpersonal, research and information literacy, numeracy and management and leadership skills

- Autonomously evaluate tasks set in the work place and apply effective communication and problem solving initiatives to achieve the best outcome for the employer;

The programme learning outcomes are the high-level learning outcomes that will have been achieved by all students receiving this award. They must align to the levels set out in the ['Sector Recognised Standards in England'](#) (OFS 2022).

	Programme Learning Outcomes				
	Knowledge and Understanding On completion of the course students will be able to:		**Intellectual Skills** On completion of the course students will be able to		**Subject Practical Skills** On completion of the course students will be able to
A6	understand how to prepare a research report and poster in the correct format and to have an active engagement and familiarity with recent and current research methods, results and publications	B7	develop an understanding of the challenges particular to the analytical and forensic sector, and with reflection and recall of both theoretical and practical skills, surmount these challenges	C6	design controlled experiments to investigate qualitative and/or quantitative characteristics of forensic samples and apply and adapt problem solving skills to unfamiliar, complex and open-ended situations
A5	understand how a research project operates and undertake research in a logical and safe manner	B6	plan, carry out and report investigations with an effective self-critical attitude	C5	develop an understanding of the analytical challenges particular to the analytical/forensic industry and acquire the specialised knowledge to face those challenges
A3	display advanced skills in interpretation and discussion of the results of laboratory and crime scene data, in the context of the wider analytical problem, and recognise the significance of the results to industry/society in general	B5	critically analyse and appraise both primary and secondary information sources	C4	prepare and deliver impartial and comprehensible oral and written reports in a variety of legal and law enforcement situations, including those involving the public and torecognise and communicate levels of uncertainty in evidence or experimental data
A2	examine the principles of crime scene investigation and will possess competence in the selection, use and development of a range of methods used in the location, identification, recovery, extraction, processing, preservation and scientific analysis	B2	demonstrate the ability to be independent, autonomous learners	C3	plan and implement good scientific and consistent practice (including contamination avoidance), reliably recording methods and results using appropriate methods to critically analyse the data and evaluate the level of its uncertainty

	at a crime scene and be able to present evidence in a mock courtroom				
A1	discuss the role of the forensic analyst in a variety of situations and possess a clear awareness of the ethical, legal and commercial responsibilities of a forensic science practitioner	B3	select appropriate techniques and procedures for carrying out particular forensic analyses	C2	operate in an efficient manner the techniques used widely in analytical / forensic industries
A4	demonstrate an understanding of, and ability to interpret clients' requirements;acquire specialist knowledge of advanced analytical techniques and specialised applications of those techniques	B1	solve the more complex problems that can arise during investigations	C1	carry out subject-related practical work safely and understand safety requirements at scenes of crime
		B4	assemble data from a variety of sources and discern and establish connections	C7	recommend improvements in methodology, technology or interpretation that enhance the performance of processes and/or procedures in an analytical or forensic context.

In addition to the programme learning outcomes, the programme of study defined in this programme specification will allow students to develop the following range of Graduate Attributes:
1. Creative Problem Solving
2. Digital Competency
3. Enterprise
4. Questioning Mindset
5. Adaptability
6. Empathy
7. Collaboration
8. Resilience
9. Self-Awareness

C. Outline Programme Structure

This programme is offered in full-time mode, and leads to the award of MSc. Entry is normally in September. Exit awards such as a postgraduate diploma or a postgraduate certificate are possible when the minimum credits achieved by a candidate are either 120 or 60 respectively.

The MSc is made up of four taught modules each worth 30 credit points and a research project worth 60 credits (180 credits total). In addition, for students taking the professional placement route, a specific 120 credit-bearing module aligned to the placement will be taken. All students will have access to the University regulations. Full details of each module will be provided in module descriptors and CANVAS.

The Professional Placement module is for all placements route students and takes place between the last exam of the taught modules (ca. June) and the project module, which will commence the following June.

It is a core module for those students following a Masters programme that incorporates an extended professional placement. It provides students with the opportunity to apply their knowledge and skills in an appropriate working environment, and develops and enhances key employability and subject specific skills in their chosen discipline. Students may wish to use the placement experience as a platform for the major project or future career.

It is the responsibility of individual students to find and secure a suitable placement opportunity; this should not normally involve more than two placements which must be completed over a minimum period of 10 months and within a maximum of 12 months. The placement must be approved by the Course Leader, prior to commencement to ensure its suitability. Students seeking placements will have access to the standard placement preparation activities offered by Student Engagement and Enhancement (SEE) group.

Assigned hours of work are to be arranged by the supervisor at the host institution. All placements will be arrangements between Kingston University and the institution hosting the placement, which may include companies, research institutes and hospitals. Students will demonstrate professional responsibility through attendance at the work place for the agreed time and hours, adherence to policies in place at the work place, effective professional communication with supervisors and co-workers, and completion of tasks and duties as they are assigned.

MSc Forensic Science (Analysis)

Level 7							
MSc Forensic Science (Analysis)							
Core modules	**Module code**	**Credit Value**	**Level**	**Teaching Block**	**Pre-requisites**	**Full Time**	**Part Time**
Forensic Chemistry and Trace Analysis	CH7110	30	7	1&2			
Molecular and Atomic Spectroscopy	CH7020	30	7	1&2			
MSc Project	CH7100	60	7	3			
Separation Science	CH7030	30	7	1&2			
The Role of the Professional Forensic Scientist	CH7080	30	7	1&2			
Optional Modules							
Professional Placement	CI7900	120	7	1&2		0	0

MSc Forensic Science (Toxicology)

Level 7							
MSc Forensic Science (Toxicology)							
Core modules	**Module code**	**Credit Value**	**Level**	**Teaching Block**	**Pre-requisites**	**Full Time**	**Part Time**
Current Concepts in Forensic Toxicology	LS7030	30	7	1&2		0	0
Molecular and Atomic Spectroscopy	CH7020	30	7	1&2		0	0
MSc Project	CH7100	60	7	3		0	0
Separation Science	CH7030	30	7	1&2		0	0
The Role of the Professional Forensic Scientist	CH7080	30	7	1&2		0	0
Optional Modules							
Professional Placement	CI7900	120	7	between 2 and 3		0	0

D. Principles of Teaching, Learning and Assessment

These programmes has been designed to take account of the KU Curriculum Design Principles. The course utilises a wide range of teaching and learning methods that will enable all students be actively engaged throughout the course. Teaching and learning methods are carefully crafted to suit the content and the learning outcomes of the module – typically using lectures in the early parts of modules to ensure that students have the key knowledge relating to the module. Through a variety of group and seminar work, practical and laboratory sessions students are then given the opportunity to develop more individual interests and personal and key skills.

A range of assessment methods will be used that enable students to demonstrate the acquisition of knowledge and skills. Methods include course work, oral presentations, in-class tests, Multiple Choice Questions (MCQs), examinations, laboratory reports and poster presentations. The assessment regime for each module has been designed to provide formative opportunities that allow students to practice and to receive feed forward on their performance in preparation for the summative assessment. The team make use of technology enhanced learning to improve the student experience and facilitate feedback. Examples include electronic marking and oral feedback via Canvas, online assessments via Respondus and bespoke assignments produced using excel and visual basic to provide rapid marking for problem-solving practicals and electronic feedback in pdf format direct to the students email account.

Students are supported by their allocated personal tutor, who will help students draw together the themes of the curriculum synoptically by discussing with them their Personal Development Plan etc. The development of academic skills is threaded throughout the course and assessed both formatively and summatively. Tutors test progress in the development of these skills, but also identify where students may need additional support, which may come via the SEC Academic Success Centre or other tailored support (MathsAid). An electronic personal development plan system is used to facilitate the process and will involve various touchpoints at different points of the academic year to ensure engagement between tutor and tutee. These will include for example an initial "get to know you" meeting where students will outline their background, describe what they hope to get from the course and how it will fit into their future career plans. A later meeting will look at results/feedback to date, discuss study methods and possible ways to improve performance. Most of the Course team are research active (some are Readers (Associate Professors) and Professors) and regularly publish their work in respected journals. This research expertise is applied to respective modules, e.g. drug testing in sport in the Molecular and Atomic Spectroscopy module and polymer analysis in the Forensic Chemistry & Trace Analysis module. Many hold or have held important positions in the field and regularly attend national meetings e.g. Chair of Register of Analytical Chemists, President of South-East Region Analytical Division (SERAD), Hon. Secretary of Royal Society of Chemistry's (RSC) Analytical Division, RSC Committee Member for Accreditation and Validation of Courses and most are Fellows or Members of the RSC or Chartered Society of Forensic Sceinces, or have professional qualifications, e.g. Chartered Chemist/EurChem/Chartered Scientist and have teaching qualifications e.g. PGCE(HE) CSciTeach, and are Fellows or Senior Fellows of the Higher Education Academy .

E. Support for Students and their Learning

Students are supported by:
- A Module Leader for each module

- A Course Director to help students understand the programme structure
- Personal Tutors to provide academic and personal support
- Project and professional placement tutors and workplace supervisor to give general advice on placement(s) and visit students
- Technical support to advise students on IT and the use of software
- A designated programme administrator
- An induction week at the beginning of each new academic session. This includes an induction to the University, the School, Library, the Graduate Centre, the Kingston University Student Union, University and School pastoral support and ancillary services
- Staff Student Consultative Committee (SSCC)
- Canvas – a versatile on-line interactive intranet an learning environment
- A substantial Study Skills Centre that provides academic skills support
- Student support facilities that provide advice on issues such as finance, regulations, legal matters, accommodation, international student support etc.
- Disabled student support
- The Students' Union
- Careers and Employability Service

F. Ensuring and Enhancing the Quality of the Course

The University has several methods for evaluating and improving the quality and standards of its provision. These include:

- External examiners
- Boards of study with student representation
- Module Enhancement Plan (MEP)
- Course Enhancement Plan (CEP)
- Periodic review undertaken at the subject level
- Student evaluation- SSCC, and early/mid module feedback/module evaluation questionnaire (recognition of student rep scheme via competence certification)
- Moderation policies
- Professional Body (CSFS) accreditation process

In the 2017 Departmetal Internal Subject Review of Pharmaceutical Sciences and Chemistry courses, the report evaluated the programmes.

The review team commended the subject team on several strengths in the provision:

- The proactivity and agility of the academic staff that ensure the delivery of, high quality contemporary programmes.
- The quality of the current students and graduates and their engagement with the review team during the meeting.
- The approachability of staff which was particularly raised by students and graduates in both academic and pastoral care.

- The review team noted the following areas of good practice:
  The clear organisational structure for quality assurance and governance offering inclusivity to student representatives.
  The diagnostic student feedback ensures student expectations are managed from the start of the academic year and that provisions can be put in place to meet student

expectations. In particular the maths aids, student support and signposting to academic skills provided to undergraduate students were exemplary.
The wide range of assessments including course work, presentations, exams and essays.
The mentoring scheme which provides cohort identity and additional support….

- The review team had confidence in the academic standards set and achieved for the fields involved in the review, in terms of the appropriateness of the content and academic level of the learning outcomes of the fields and the consistency of the actual student achievement with the intended outcomes.
- The review team had confidence in the quality of the learning opportunities that supported the students in achieving the academic standards of the awards to which the fields lead.
- The review team concluded that the fields were current and that the aims and learning outcomes were appropriate and were being met. The review team also concluded that the fields were well structured and complied with the Framework for Higher Education Qualifications and relevant subject benchmark statements.

The former MSc Forensic Analysis course was commended "for the wide range of analytical equipment available to Masters students", when the course was accredited for all 3 component standards by the Chartered Society of Forensic Sciences in 2014. In 2017, the Course remained accredited following a surveillance visit. These two new courses have been submitted for accreditation February 2019.

G. Employability and work-based learning

In the UK, forensic scientists are now mainly employed in independent laboratories (e.g. Eurofins). They perform a variety of roles including laboratory technical support, laboratory management, forensic investigations (sampling, chemical analysis and data interpretation) and are expected to present evidence through formal reports or directly in court. There is a great student demand for this limited job market and for related degree courses. Whilst a qualification in Forensic Science can allow access to employment opportunities in forensic laboratories, the training required for a forensic scientist is valuable in a wide range of related employment sectors. These could include: environmental measurement laboratories, pharmaceutical laboratories, insurance companies, occupational health and safety laboratories, industrial quality assurance laboratories, medicinal and scientific research laboratories. The course would also prepare students for a PhD in forensic analysis/toxicology or related disciplines.

This course has been designed to fulfil the curriculum requirements of the Chartered Society of Forensic Sciences for a specialist field and as such prepares students for graduate entry positions in a variety of employment settings. Representatives from both the former Forensic Science Service and private laboratories (Eurofins) were consulted on the content of the curriculum to ensure that the content of the course and the knowledge and skills that it develops are appropriate to the modern practice setting.

Recent surveys indicate most of our graduates finding employment/further education less than 6 months after graduation in many of the areas mentioned above.

Work-based learning, including sandwich courses and higher or degree apprenticeships

Depending on availability, MSc projects may be taken in industry and the professional placement route offers 10-12 months vocational experience in up to 2 settings.
While it is the responsibility of individual students to secure such placements, the Careers and Employability Service offers each student support at all stages of the application process, including writing CVs, completing application forms, participating in mock interviews, assessment centre activities and psychometric tests. The process of applying for a placement gives students the opportunity to experience a real-life, competitive job application process.

The business experience period enables students to apply their learning in the real-world work environment, to reflect upon their own personal experience of working in an applied setting, to focus on aspects of this experience that they can clearly relate to theoretical concepts and to evaluate the relationship between theory and practice. Students will be assessed during and at the end of this period, normally through a portfolio. This will be marked as pass/fail.

Students who undertake work-based placements often benefit greatly from the experience, gaining real experience and work achievements.

H. Other sources of information that you may wish to consult

See subject benchmark for Forensic Science:
http://www.qaa.ac.uk/Publications/InformationAndGuidance/Pages/Subject-benchmark-statement-forensic-science.aspx

National Occupational Standards:
www.skillsforjustice-nosfinder.com/suites.php?suite_id=20

Skills for Justice also runs an optional recognition scheme for degree programmes, referred to as Skillsmark:
http://www.skillsforjustice.com/skillsmark

Programme accreditation is also available through the Chartered Society of Forensic Sciences based around adherence to its component standards:
http://www.charteredsocietyofforensicsciences.org/Accreditation

Codes of practice set by the Forensic Science Regulator and International organization for Standardization (ISO) standards:
http://www.homeoffice.gov.uk/agencies-public-bodies/fsr/codes-practice/

Kingston University website:

http://www.kingston.ac.uk/postgraduate-course/forensic-analysis-msc/#modulelist

I. Development of Course Learning Outcomes in Modules

This table maps where course learning outcomes are **summatively** assessed across the modules for this course. It provides an aid to academic staff in understanding how individual modules contribute to the course aims, a means to help students monitor their own learning, personal and professional development as the course progresses and a checklist for quality assurance purposes.

Module Code		Level 7						
		CH7080	CH7030	CH7020	CH7110	CI7900	CH7100	LS7030
Knowledge & Understanding	A6						S	
	A5							
	A3	S			S			S
	A2	S			S			S
	A1	S			S			S
	A4	S	S		S		S	S
Intellectual Skills	B7							
	B6						S	
	B5	S						
	B2							
	B3	S			S			S
	B1	S	S		S		S	S
	B4	S						
Practical Skills	C6							
	C5							
	C4	S			S			S
	C3							
	C2							
	C1	S			S			S
	C7						S	

Students will be provided with formative assessment opportunities throughout the course to practise and develop their proficiency in the range of assessment methods utilised.