Confirmation that this version of the module specification has been approved by the School Learning and Teaching Committee:

……11TH March 2015…………………………………………….

**MODULE SPECIFICATION**

1. Title of the module

*PS301 Introduction to Forensic Science*

1. School or partner institution which will be responsible for management of the module

*School of Physical Sciences*

1. Start date of the module

*Existing module. Next running in 2015-16*

1. The number of students expected to take the module

*170*

1. Modules to be withdrawn on the introduction of this proposed module and consultation with other relevant Schools and Faculties regarding the withdrawal

*None. Existing module.*

1. The level of the module (e.g. Certificate [C], Intermediate [I], Honours [H] or Postgraduate [M])

*C*

1. The number of credits and the ECTS value which the module represents

*15 (7.5 ECTS)*

1. Which term(s) the module is to be taught in (or other teaching pattern)

*Term 2*

1. Prerequisite and co-requisite modules

*None*

1. The programmes of study to which the module contributes

* *Forensic Science (BSc, BSc with Foundation Year, BSc with Year in Industry, MSci)*
* *Forensic Chemistry (BSc, BSc with Year in Industry, MSci)*

*This is available as a wild module*

1. The intended subject specific learning outcomes
   1. *Knowledge and understanding of core and foundation scientific physical, biological, and chemical concepts, terminology, theory, units, conventions, and laboratory methods in relation to forensic science. (1)*
   2. *Areas of chemistry (including analytical chemistry, fires and explosions,) as applied to forensic analysis. (3)*
   3. *Areas of bioscience including cells, biochemistry, human DNA. (4)*
   4. *Numeracy (including data analysis and statistics), forensic investigation and interpretation (including image analysis, forensic archaeology, ballistics, interrogation, and the extraction, analysis, interpretation of physical evidence) and apply them to forensic examination and analysis. (5)*
   5. *Incident investigation, evidence recovery, preservation, and presentation as an expert witness within the judicial environment. (6)*
   6. *Ability to demonstrate knowledge and understanding of essential facts, concepts, principles and theories relating to forensic science and to apply such knowledge and understanding to the solution of qualitative and quantitative problems. (8)*
   7. *Ability to recognise and analyse novel problems involving forensic science and plan strategies for their solution by the evaluation, interpretation and synthesis of scientific information and data by a variety of computational methods. (9)*
   8. *Safe handling of firearms, ammunition, and propellants. Analysis of forensic evidence related to firearms, firearm discharge, and ballistic theory. (18)*
   9. *Evidence recovery, preservation, analysis, and presentation to professional standards. (20)*
2. The intended generic learning outcomes
   1. *Communication skills, covering both written and oral communication. Self-management and organisational skills with the capacity to support life-long learning. (21)*
   2. *Problem-solving skills, relating to qualitative and quantitative information, extending to situations where evaluations have to be made on the basis of limited information. (22)*
   3. *Numeracy and computational skills, including such aspects as error analysis, order-of-magnitude estimations, correct use of units and modes of data presentation. (23)*
   4. *Information-retrieval skills, in relation to primary and secondary information sources, including information retrieval through on-line computer searches. (24)*
3. A synopsis of the curriculum

*Forensic Science; Evidence and the Scene of the Crime   
What is forensic science? Historical and legal background of forensic science – exchange principles and linkage theory. Forensic science in the U.K – inductive and deductive reasoning. Identification, characterisation, recovery and weighting of trace evidence types. Crime scene searching methodologies; the integrity and continuity of evidence. Introduction to laboratory testing dealing with glass, tool-mark, shoe-mark and tyre impressions. The management of scientific support at crime scenes. Procedures at crime scenes illustrated by reference to crimes of burglary, murder and sexual offences. Fingerprint history, classification, recovery and chemical enhancement of fingerprints. Blood pattern analysis supporting the advances in DNA techniques. Firearms classification, internal & external ballistics, trajectory, mass and velocity. Firearms injuries at crime scenes. Introduction to DNA analysis and the functioning of the National DNA Database. Sexual offence investigation and body fluid identification. Clinical indicators of death and murder scene investigation.  
Drug Abuse, Alcohol and Forensic Toxicology  
Drugs of abuse and their identification. Drugs, alcohol poisons and their metabolism. Toxicology and the role of the forensic toxicologist. Qualitative and quantitative laboratory analysis.   
Document Examination:*

*Signature and handwriting identification. Paper, inks and printed documents. Damage characterisation.  
Fires and Explosions:   
Arson. Fire and combustion. Types of explosives and the nature of explosions. The crime scene investigation: sampling and laboratory analysis.*

1. Indicative Reading List

*Crime Scene to Court, the Essentials of Forensic Science, 3rd edition, White, P. (ed.) (2010)*

*Forensic Science, 3rd edition, Jackson, A.R.W. & Jackson J. M. (2011)*

*Criminalistics, 10th edition, Saferstein, R. (2011)*

1. Learning and Teaching Methods, including the nature and number of contact hours and the total study hours which will be expected of students, and how these relate to achievement of the intended module learning outcomes

*The module is delivered over 28 hours of lectures*

*Achievement of module learning outcomes:*

*The 28 hours of lectures focus upon providing students with detailed appreciation and understanding of the foundations of forensic science. Learning outcomes 11.1, 11.2, 11.3, 11.4, 11.5, 11.6, 11.7, 11.8, 11.9, 12.2, 12.3*

*Independent study 122 hours. Learning outcomes: 11.1, 11.2, 11.3, 11.4, 11.5, 11.6, 11.7, 11.8, 11.9, 12.1, 12.2, 12.3, 12.4*

1. Assessment methods and how these relate to testing achievement of the intended module learning outcomes

*Examination (Length 2 hours) 75%; Coursework 25% including on-line assignments*

*The above assessments test students’ knowledge and understanding of concepts, theory and laboratory methods (11.1, 11.2, 11.3, 11.5, 11.6, 11.8, 11.9) and application of techniques to solve problems with computational methods(11.4, 11.6, 11.7, 12.1, 12.2, 12.3). In preparing for the assessments, students will need to manage their own revision using reference materials. (12.1, 12.4)*

1. Implications for learning resources, including staff, library, IT and space

*None. Existing module.*

1. The School recognises and has embedded the expectations of current disability equality legislation, and supports students with a declared disability or special educational need in its teaching. Within this module we will make reasonable adjustments wherever necessary, including additional or substitute materials, teaching modes or assessment methods for students who have declared and discussed their learning support needs. Arrangements for students with declared disabilities will be made on an individual basis, in consultation with the University’s disability/dyslexia support service, and specialist support will be provided where needed.
2. Campus(es) where module will be delivered:

*Canterbury*