PRIFYSGOL glyndŵr UNIVERSITY

MODULE SPECIFICATION FORM

Module Title: **Drugs and Toxicology**	Level: 6	Credit Value: 20

Module code: SCI609	Cost Centre: GAFS	JACS3 code: F100

Semester(s) in which to be offered: 1	With effect from: Sept 2014

Office use only: To be completed by AQSU:	Date approved: July 2013 Date revised: July 2014 Version no: 2

Existing/New: Existing	Title of module being replaced (if any):

Originating Academic Department: Chemistry	Module Leader: Dr Amiya Chaudhry

Module duration (total hours):	200	Status: core/option/elective (identify programme where appropriate):	Core for BSc Forensic Science Option for BSc Chemistry with Green Nanotechnology
Scheduled learning & teaching hours	50		
Independent study hours	150		

Programme(s) in which to be offered: BSc (Hons) Forensic Science. BSc (Hons) Chemistry with Green Nanotechnology.	Pre-requisites per programme (between levels): None

Module Aims:

The module is intended to:

- Introduce the chemistry of drugs and poisons.
- Consider the classification methods of drugs and poisons.
- Discuss methods utilised in forensic drug analysis.
- Outline the forensic toxicology of the above area, including pharmacokinetics.
- Broaden the scientific and technical knowledge of students through the exploration of high profile drug related case studies.

Expected Learning Outcomes:

At the end of this module, students should be able to:

Knowledge and Understanding:

1. Understand the chemistry of drugs and poisons and methods of classification.
2. Critically appraise sampling and analytical techniques that are used to solve drugs and poison cases.
3. Apply pharmacokinetic principles to solve numerical problems
4. Critically evaluate evidence and demonstrate the role played by forensic toxicologists in investigations.

Transferable/Key Skills and other attributes:

- Numeracy
- Time management skills
- Interpretation and presentation of written scientific information.

Assessment:

Assessment 1: Poster presentation based on a high profile self-drug abuse case study or a high profile murder case study (50%).

Assessment 2: Exam (2 hours) (50%)

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting	Duration (eg, if exam or presentation)	Word count (or equivalent if appropriate)
1	4	Poster Presentation	50%	20 minutes	
2	1-3	Examination	50%	2 hours	

Learning and Teaching Strategies:

Students will attend formal timetabled lectures throughout the semester.
There will be class discussions and the opportunity to share information and develop good communication skills.
Students will research case studies and present information to peers.

Syllabus outline:

Drugs and forensic toxicology

- Drug definition and classification
- Legal classification of drugs of abuse within the UK system, including examples.
- Drugs as evidence.

Physical evidence, biological evidence and importance of drug profiling.

Drug analysis

- Types of samples that are analysed (bulk and trace)
- Presumptive tests such as chromatography.
- Confirmatory tests using mass spectroscopy and infrared spectroscopy.

Forensic toxicology

- Poisoning: types of poison and routes through the body.

Introduction to basic pharmacokinetics

- Toxic dose: sampling.
- Factors affecting toxicity.

Researching and presenting case studies.

Bibliography:

Essential reading:

Bell, S. (2012) *Forensic Chemistry, 2nd Edition,* Pearson Prentice Hall.

Jackson, A.R.W. and Jackson, J.M. (2011) *Forensic Science, 3rd Edition*, Prentice Hall.

Dhillon, S. (2006) *Clinical Pharmacokinetics*, Pharmaceutical Press.

Other indicative reading:

Case studies and court papers.