Module specification

When printed this becomes an uncontrolled document. Please access the Module Directory for the most up to date version by clicking on the following link: Module directory

Refer to the module guidance notes for completion of each section of the specification.

Module code	SCI642
Module title	Drugs and Toxicology
Level	6
Credit value	20
Faculty	FAST
Module Leader	Dr Amiya Chaudhry
HECoS Code	Forensic Science: 100417/ Biochemistry:100344
Cost Code	GAFS

Programmes in which module to be offered

Programme title	Is the module core or option for this programme
BSc (Hons) Forensic Science	Core
BSc (Hons) Biochemistry	Core

Pre-requisites

None

Breakdown of module hours

Learning and teaching hours	24 hrs
Placement tutor support	0 hrs
Supervised learning e.g. practical classes, workshops	6 hrs
Project supervision (level 6 projects and dissertation modules only)	0 hrs
Total active learning and teaching hours	**30** hrs
Placement / work based learning	170 hrs
Guided independent study	0 hrs
Module duration (total hours)	200 hrs

For office use only	
Initial approval date	14/10/20

For office use only	
With effect from date	01/09/2021
Date and details of revision	18/3/21 – APSC approval to replace previous version in BSc Forensic Science programme.
Version number	2

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.

Module Learning Outcomes - at the end of this module, students will be able to:

1	Obtain a systematic understanding of 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.

Assessment

Indicative Assessment Tasks:
Assessment 1: Presentation (20 min) based on a case study (50%).

Assessment 2: Open book in-class test (2 hours) (50%)

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)
1	4	Presentation	50%
2	1, 2 & 3	In-class test	50%

Derogations

N/A

Learning and Teaching Strategies

Students will be taught by a series of online and onsite timetabled lectures throughout the semester. Problem solving exercises and case studies will help reinforce fundamental principles. Students will research case studies and present information to peers. Guidance will be provided for directed learning.

Indicative Syllabus Outline

Drugs and evidence:

- 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

Indicative Bibliography:

Please note the essential reads and other indicative reading are subject to annual review and update.

Essential Reads

Bell, S. (2014) *Forensic Chemistry. 2nd ed.* Harlow: Pearson Education.

Other indicative reading

- Bell, S. (2019) *Forensic Science: An Introduction to Scientific and Investigative Techniques* 5th ed. CRC Press
- Dhillon, S. and Kostrzewski, A. (2006) *Clinical Pharmacokinetics.* London: Pharmaceutical Press.
- Jackson, A.R.W. and Jackson, J.M. (2017) *Forensic Science.* 4th ed. Harlow: Prentice Hall.
- Lappas, N.T. and Lappas, C.M. (2016) *Forensic Toxicology: Principles and Concepts.* Academic Press Elsevier
- Negrusz, A. and Cooper, C. (2013) *Clarke's Analytical Forensic Toxicology.* 2nd ed. London: Pharmaceutical Press.
- Case studies and court papers.

Employability skills – the Glyndŵr Graduate

Each module and programme is designed to cover core Glyndŵr Graduate Attributes with the aim that each Graduate will leave Glyndŵr having achieved key employability skills as part of their study. The following attributes will be covered within this module either through the content or as part of the assessment. The programme is designed to cover all attributes and each module may cover different areas. Click here to read more about the Glyndwr Graduate attributes

Core Attributes
Engaged
Creative
Enterprising
Ethical

Key Attitudes
Commitment
Curiosity
Resilience
Confidence
Adaptability

Practical Skillsets
Digital Fluency
Organisation
Leadership and Team working
Critical Thinking
Emotional Intelligence
Communication