## MODULE DESCRIPTOR

### Module Title

Drug Analysis And Toxicology

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|---|---|---|---|
| Reference | PLM306 | Version | 1 |
| Created | February 2023 | SCQF Level | SCQF 11 |
| Approved | March 2023 | SCQF Points | 30 |
| Amended | August 2021 | ECTS Points | 15 |

### Aims of Module

To enable the students to critically evaluate the principles, applications and limitations of instrumental analysis in Drug Analysis and Toxicology and to select and implement a range of appropriate analytical techniques to solve a given analytical problem.

### Learning Outcomes for Module

On completion of this module, students are expected to be able to:

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| 1 | Critically appraise key factors related to the quality/safety/authenticity of prescription drugs. |
| 2 | Critically evaluate the appropriateness of the different techniques available for sampling, preparation and analysis for an analytical problem related to the quality/safety/authenticity of prescription drugs. |
| 3 | Critically review the results and conclusions from an analytical group project related to quality/safety/authenticity of prescription drugs. |

### Indicative Module Content

Drug screening and confirmation. Analytical procedures for the determination of drugs of abuse in biological matrices e.g. blood, serum, plasma, saliva, urine etc. Structure elucidation, Pharmaceutical drug analysis, drug formulation, use of general pharmaceutical monographs for formulated preparations. Measuring toxicology: LD50, exposure limits, thresholds, reversibility, sensitivity. Toxicokinetics: absorption, distribution, metabolism and excretion. Solution of an analytical problem appropriate to Drug Analysis or Toxicology requiring a combination of Laboratory techniques.

### Module Delivery

Full-time and Part-time; the module is delivered by formal lectures and some external speakers. Mandatory attendance for 5 days of laboratory work as part of a designated group solving a drug analysis or toxicology problem.

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| Indicative Student Workload | Full Time | Part Time |
|---|---|---|
| Contact Hours | 70 | 70 |
| Non-Contact Hours | 230 | 230 |
| Placement/Work-Based Learning Experience [Notional] Hours | N/A | N/A |
| TOTAL | 300 | 300 |
| *Actual Placement hours for professional, statutory or regulatory body* | | |

## ASSESSMENT PLAN

*If a major/minor model is used and box is ticked, % weightings below are indicative only.*

### Component 1

| Type: | Practical Exam | Weighting: | 100% | Outcomes Assessed: | 1, 2, 3 |
|---|---|---|---|---|---|
| Description: | Demonstrate competent laboratory planning & analysis of an abused or common pharmaceutical drug and individual performance in a PowerPoint presentation. | | | | |

## MODULE PERFORMANCE DESCRIPTOR

### Explanatory Text

The grade represents Component 1 (PE1). A minimum of Module Grade D is required to pass the module. Non-submission will result in an NS grade.

| Module Grade | Minimum Requirements to achieve Module Grade: |
|---|---|
| **A** | A |
| **B** | B |
| **C** | C |
| **D** | D |
| **E** | E |
| **F** | F |
| **NS** | Non-submission of work by published deadline or non-attendance for examination |

## Module Requirements

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| Prerequisites for Module | None, in addition to the course entry requirements. |
| Corequisites for module | None. |
| Precluded Modules | None. |

## INDICATIVE BIBLIOGRAPHY


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|---|---|
| 1 | AULTON, M.E. 2021. Pharmaceutics, The Design and Manufacture of Medicines. Churchill Livingstone Elsevier. |
| 2 | WATSON, D.G. 2020. Pharmaceutical Analysis. Churchill Livingstone Elsevier. |
| 3 | ANSEL, H.C. 2014. Eight edition. Pharmaceutical Dosage Forms and Drug Delivery Systems. Wolters Kluwer Health. |
| 4 | CREAN, A. 2010. The physiochemical basis of Pharmaceuticals. Oxford University Press. |
| 5 | SKOOG, W. CROUCH, S. WEST, D and HOLLER, F. 2021. Tenth edition. Skoog and West. Fundamentals of Analytical Chemistry. Cengage Learning |