



Module Specification

Human Biological Systems

Version: 2023-24, v3.0, 13 Jan 2023

Contents

Module Specification	1
Part 1: Information	2
Part 2: Description	2
Part 3: Teaching and learning methods	3
Part 4: Assessment.....	4
Part 5: Contributes towards	7

Part 1: Information

Module title: Human Biological Systems

Module code: USSJRU-30-1

Level: Level 4

For implementation from: 2023-24

UWE credit rating: 30

ECTS credit rating: 15

Faculty: Faculty of Health & Applied Sciences

Department: HAS Dept of Applied Sciences

Partner institutions: None

Delivery locations: Frenchay Campus

Field: Applied Sciences

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: This module examines the fundamentals of human biology particularly the molecular events that occur at the cellular level and how these affect the function of tissues and organs.

Features: Not applicable

Educational aims: The central goal of the Human Biological Systems module is to provide forensic science students with a firm understanding of general human anatomy and physiology, including various systems in the human body, which underpins higher level study in forensic biology; genetics; neuroscience and pathophysiology.

Outline syllabus: An examination of the organisation of the human body, including appreciation of the location, structure and function of the major tissues, organs and systems and the contribution of cells and tissues to the whole.

Homeostasis and biological processes which support life.

Communication between cells/tissues/organs: including an introduction to signalling and receptors, endocrine control, nervous control and synapses.

Structure and function of cell membranes and the structure and function of generalised prokaryotic and eukaryotic cells.

Overview of macromolecules in human cells including proteins, carbohydrates and lipids and an introduction to the biochemical processes of the cell.

The genetic material and genomes, including DNA replication, gene expression and the gene inheritance patterns in humans.

Part 3: Teaching and learning methods

Teaching and learning methods: The theoretical material is delivered as lectures and supported by directed reading, practical activities and directed tasks. The practical work will support and extend lecture material and will include simulation workshops and data interpretation.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Understand the organisation, structure, regulation, and expression of genetic material and the modes of inheritance.

MO2 Understand organelle function and fundamental cellular processes such as metabolism, transcription, translation, and splicing.

MO3 Describe the structure and function of the main systems of the human body and their associated anatomy. This includes both the subcellular, cellular, tissue and organ level of organisation.

MO4 Understand how human biology relates to the field of forensic science through use of case studies.

MO5 Demonstrate practical skills in data observation, collection, handling, presentation and discussion.

Hours to be allocated: 300

Contact hours:

Independent study/self-guided study = 228 hours

Face-to-face learning = 72 hours

Total = 300

Reading list: The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/modules/ussjru-30-1.html) via the following link <https://uwe.rl.talis.com/modules/ussjru-30-1.html>

Part 4: Assessment

Assessment strategy: Assessment 1: Portfolio of work produced through continuous engagement with the module:

-Fortnightly quizzes (20%): Students will complete fortnightly quizzes. These will either review the lecture content, or help apply the lecture content to forensic science in the form of a case study. These are 15 minute quizzes where the student can have unlimited attempts.

-Laboratory book completion (40%): This requires the detailed recording of data followed by analysis, interpretation, and discussion. Contemporaneous note taking

is an important graduate skill for forensic scientists and this underpins the completion of laboratory examination records in level 5. The laboratory book also contains questions that encourage students to read around the subject.

Students are supported to succeed in assessment 1 as follows: The laboratory book is completed in class, where students are supported by academic and technical staff. Students can undertake the fortnightly quizzes as many times as they wish throughout the two week period and provision is made for students missing isolated sessions.

Assessment 2:

Game production to assess fellow students (2x20%): The students will produce two games for their fellow classmates applying knowledge they have learned in HBS to the context of forensic science. These games are broad in scope, but present information in order for the classmate to interpret and come to the correct conclusion about the case. As an example, the classmate may be given a series of blood results from a patient and they must interpret this information to decide what the victim has been poisoned with. There has to be a key inclusion of HBS content here. The game cannot last longer than 15 minutes, and each student will assess 5 other students games. As part of the marking scheme the students will also reflect about the process of marking and improving on their feedback, encouraging the student to think about what they have learnt.

These quizzes will be done in the first semester and second semester in order to encourage students to address feedback from the first attempt to the second. The students will be asked to direct their game towards their fellow scientists (for the first submission), and the lay public (for the second submission).

This assessment has been selected to encourage students to utilise feedback for future assessment and also to develop skills in the communication of scientific principles to lay audiences, an essential skill for forensic scientists.

Students are supported to succeed in this assessment through demonstration and

support tutorials on the game platform and also through the discussion of exemplar games in class.

Assessment components:

Practical Skills Assessment (First Sit)

Description: Online forensic games

Weighting: 40 %

Final assessment: No

Group work: No

Learning outcomes tested: MO4

Portfolio (First Sit)

Description: Fortnightly quizzes and laboratory book.

Weighting: 60 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO5

Practical Skills Assessment (Resit)

Description: Online forensic games

Weighting: 40 %

Final assessment: No

Group work: No

Learning outcomes tested: MO4

Portfolio (Resit)

Description: Short quizzes and laboratory book.

Weighting: 60 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO5

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Forensic Science {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2022-23

Forensic Science {Foundation} [Sep][FT][Frenchay][5yrs] MSci 2022-23

Forensic Science {Foundation} [Sep][SW][Frenchay][6yrs] MSci 2022-23

Forensic Science {Foundation} [Frenchay] BSc (Hons) 2022-23

Forensic Science {Foundation} [Frenchay] MSci 2022-23

Forensic Science {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2022-23