Module Specification

Disease, Diagnosis and Monitoring

Version: 2025-26, v2.0, 10 Apr 2025

Contents

Part 1: Information

Module title: Disease, Diagnosis and Monitoring

Module code: USSJKX-15-M

Level: Level 7

For implementation from: 2025-26

UWE credit rating: 15

ECTS credit rating: 7.5

College: College of Health, Science & Society

School: CHSS School of Applied Sciences

Partner institutions: None

Field: Applied Sciences

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: Yes

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: In each subject area, disease pathology, screening, diagnosis, monitoring and prognosis will be discussed from the perspective of existing health technology and their associated limitations. This will be discussed together with respect to how AI and digital medicine has the potential to dramatically change and improve these clinical tools, ultimately improving healthcare and the associated economic burden.

Chronic conditions can be defined as conditions that last longer than 3-6 months,

usually a slow progression and requires ongoing medical intervention. Commonly these conditions limit an individual's ability to perform their day-to-day living and accessibility to amenities, resulting in their premature admission to care homes. The common conditions discussed in this module include, chronic respiratory disease, cancer, cardiovascular disease (including hypertension), diabetes, neurodegenerative conditions (such as Alzheimer's disease) and musculoskeletal conditions such as osteoporosis and rheumatoid arthritis. Infectious diseases such as viral pandemics will also be discussed. This will be delivered through a series of lecture, tutorials and laboratory practical classes.

Features: This module is available as CPD.

Educational aims: The aim of this module is to introduce the key chronic disease conditions that will benefit from advances in AI and digital technologies.

Outline syllabus: Diseases such as:

Respiratory disease: Diagnosis and monitoring

Cancer: Clinical markers of disease together with physical imaging techniques.

Cardiovascular disease: Lifestyle choices and disease pathology and how damage to the cardiovascular system is clinically assessed.

Red blood cell disorders: sickle cell disease and other anaemias - diagnostic and monitoring approaches

Thrombophilia: coagulation testing and point of care assays

Diabetes: Screening, monitoring and diagnosis of type II diabetes and new technology such as wearables and mobile Apps (M health).

Mental health: Living well with dementia, robotics and smart technology.

Musculoskeletal: New technological advances for medical implant functionalisation.

Infectious disease: COVID-19 and bacterial infection

Part 3: Teaching and learning methods

Teaching and learning methods: Lectures: This module will be delivered through integrated lectures, where each lecture will provide the basic underpinning of each chronic disease, highlighting the unmet clinical need that new health technologies such as AI or digital technology can address.

Practical classes: Several classes will be included that are linked to the lecture series offering the students an applied understanding of each topic section.

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

MO1 Critically evaluate biomedical data in the investigation and diagnosis of disease and discuss the origin and effects of abnormal profiles.

MO2 Communicate an understanding of disease pathology and the basis of current diagnostic techniques and assess the unmet clinical need for new health technologies to improve diagnostic power, monitoring or effective treatment.

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 114 hours

Face-to-face learning = 36 hours

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://uwe.rl.talis.com/modules/ussjkx-15-m.html

Part 4: Assessment

Assessment strategy: Assessment: Poster (20 minutes)
Poster and oral defence.
The poster should illustrate the underlying pathology of the disease area being addressed and explain the biological and methodological principles underlying the current diagnostic approach or technology covered in one of the four practical classes on the module. Each student should present their own analysed data and interpretation from the practical session and dedicate a section to exploring the scope for new and future technological or digital approaches for disease diagnosis, monitoring or treatment in the chosen area, including examples. The student will present this poster in an oral defence. Allocated practical session for each student will be randomly assigned following the final practical from one of the four sessions with equal distribution across the student cohort.

Assessment tasks:

Poster (First Sit)
Description: Poster and oral defence (20 minutes)
Weighting: 100 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2

Poster (Resit)
Description: Poster and oral defence (20 minutes)
Weighting: 100 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Health Technology [Frenchay] MSc 2025-26

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