

Clinical Physiology

Postgraduate Diploma & MSc Courses





Year 1

Year 1, comprising of 6 modules, each of 6 weeks duration, is designed to be practical and clinically focused. The course is designed to be practical and clinically focused.

Year 2

The MSc runs over 2 calendar years, with the first year comprising of the Postgraduate Diploma. The second year starts with an initial 10 week online module to develop skills in critical appraisal and knowledge of research methodologies. Students then complete the professional project module.

Why study Clinical Physiology with us?

Our Clinical Physiology Postgraduate Diploma and MSc are delivered entirely online and are completely flexible to fit around your other commitments.

Clinical Physiology, a branch of physiology, is pivotal in understanding the body's function and its systems, employing tests and diagnostics to evaluate physiological processes, especially in relation to disease. The need for primary care healthcare professionals (HCPs), stems from the evolving healthcare landscape marked by chronic diseases and an ageing population.

It enhances patient care by providing HCPs with a deeper understanding of clinical physiology, fostering interdisciplinary collaboration, and promoting professional development.

It addresses the need for specialised knowledge amidst a changing healthcare environment and offers extensive benefits, including enhanced patient care and support for the NHS's public health initiatives. This programme represents a significant step forward for HCPs and the advancement of healthcare.

This programme can help you bridge the gap between fundamental medical sciences and real-world healthcare applications. Whether you're looking to specialise as a clinical physiologist or expand your knowledge across medical and allied health fields, this course provides the academic and practical foundation to advance your career.

Dr. Karl New, Learna | Diploma MSc Programme Leader

Clinical Physiology Postgraduate Diploma

Course Modules - Year 1

Our online Clinical Physiology Postgraduate Diploma allows you to study for just one calendar year and is a part-time, distance-learning course. The course is worth 120 credits and comprises six modules of 20 credits, each running over a period of six weeks

Module 1: Cardiovascular Physiology and Pathophysiology

Aim of the module:

- Develop advanced knowledge of cardiovascular system physiology and pathophysiology and its application to clinical practice.

Synopsis of module content:

- Cardiovascular Physiology – The Heart as A Pump
- Cardiovascular Integration and Regulation
- Vascular System Physiology
- Haemodynamics and Microvascular Control
- Cardiac Pathophysiology and Disease
- Circulatory System Pathophysiology and Disease

On completion of this module, students will be able to:

1. Critically evaluate the mechanisms of physiological function and control in the human cardiovascular system, integrating knowledge to interpret the progression from normal homeostasis to pathophysiology.
2. Analyse advanced cardiovascular pathophysiological processes, interpreting complex clinical manifestations and emerging therapeutic interventions.

Module 2: Respiratory Physiology and Pathophysiology

Aim of the module:

- Develop advanced knowledge of respiratory system physiology and pathophysiology and its application to clinical practice.

Synopsis of module content:

- Respiratory Physiology – Lungs and Mechanics of Breathing
- Respiratory Physiology – Ventilation & Perfusion
- Respiratory Physiology – Gaseous Exchange
- Pulmonary Regulation
- Respiratory Pathophysiology
- Respiratory Disease

On completion of this module, students will be able to:

1. Critically evaluate intricate respiratory control mechanisms, synthesising advanced understanding of gas exchange, ventilation, and systemic respiratory interactions.
2. Examine the pathophysiological processes underlying respiratory diseases and their implications for clinical interventions.

Module 3: Renal Physiology and Pathophysiology

Aim of the module:

- Develop advanced knowledge of renal system physiology and pathophysiology and its application to clinical practice.

Synopsis of module content:

- Renal Physiology – Functional Role of the Kidneys
- Renal Physiology – Filtration, Reabsorption and Secretion
- Renal Physiology – Fluid Balance
- The Kidneys and Acid-Base Balance
- Renal Pathophysiology
- Renal Disease

On completion of this module, students will have:

1. Critically analyse sophisticated renal regulatory processes, integrating evidence to appraise the shift from normal homeostasis to pathophysiological states.
2. Investigate the underlying pathophysiology of renal diseases and their application to complex clinical scenarios.

Module 4: Endocrine and Metabolic Physiology

Aim of the module:

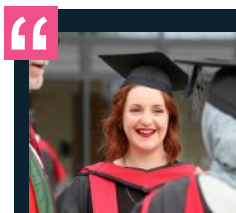
- Develop advanced knowledge of endocrine and metabolic system physiology and pathophysiology and its application to clinical practice.

Synopsis of module content:

- Hypothalamus and Pituitary Gland Control
- Thyroid & Parathyroid Physiology
- Adrenal Physiology
- Pancreas and Metabolic Physiology
- Endocrine Pathophysiology
- Endocrine and Metabolic Disease

On completion of this module, students will be able to:

1. Critically evaluate intricate endocrine regulatory networks, synthesising knowledge of complex interactions between metabolic pathways and systemic physiological responses.
2. Assess the pathophysiological mechanisms of endocrine and metabolic disorders and synthesise their integration into clinical practice.



Doing a course, all online is a lot more convenient for me around my clinical role so that's why I chose to study with Learn... I really like how flexible the course was, I liked the freedom I got with the professional project and I was well supported throughout the whole 2 years!

- Lisa Jayne Edwards, Medical Education MSc graduate

Module 5: Neurophysiology and Pathophysiology

● Aim of the module:

Develop advanced knowledge of neurophysiology and pathophysiology and its application to clinical practice.

Synopsis of module content:

- Neural Communication *In Vivo* – Excitable Cells
- Somatic Nervous System
- Autonomic Nervous System
- Proprioception and Motor Control
- Pathophysiology of the Nervous System
- Nervous System Disease

On completion of this module, students will be able to:

1. Interpret the functional organisation and control of neurophysiological systems, linking theoretical insights to the development of pathophysiological conditions.
2. Critically appraise the pathophysiology of nervous system disorders, integrating this understanding into advanced clinical applications.

Module 6: Interdisciplinary and Clinical Exercise Physiology

● Aim of the module:

Evaluate and synthesise evidence on the effects, benefits and prescription of exercise in acute and chronic diseases, critically analysing its impact on population health. Develop advanced knowledge of environmental and applied clinical physiology and its application to clinical practice

Synopsis of module content:

- Acute and Chronic Physiological Responses to Exercise
- Role of Exercise in Prevention & Treatment of Disease
- Exercise Prescription and Programming in Clinical Populations
- Environmental Physiology
- Environmental and Integrated Clinical Physiology
- Interdisciplinary and Applied Clinical Physiology

On completion of this module, students will be able to:

1. Critically evaluate the role of exercise in managing acute and chronic conditions across diverse populations, applying current research to optimise evidence-based exercise interventions.
2. Critically analyse complex interactions between exercise, environmental factors, and clinical physiological responses, constructing advanced interdisciplinary clinical management strategies.



"When I enrolled into the course I had no idea about the opportunities it would provide me with. Having my first paper published through this course helped me overcome my apprehensions of academic writing and made me more confident to pursue it further. "

Rutu Dave

Clinical Physiology MSc

Course Modules - Year 2

Module 7 - Research Methodologies and Critical Appraisal

Aim of the module:

- To help students recognise, understand, interpret and apply methods used in healthcare research and critically appraise the various methodologies.

Synopsis of module content:

- Terminology used in epidemiology and research studies such as prevalence, incidence, sensitivity, specificity, false positive and false negatives.
- Interpreting graphical representation of epidemiological and statistical data such as Kaplan-Meier curves, forest plots and meta-analyses.
- Calculations used in the assessment of research data such as relative risk, absolute risk and number needed to treat. Statistical tests and their applications including t-tests, ANOVA and chi-square.
- Qualitative research methods.
- Fundamentals of evidence-based practice and its application into the clinical setting.
- Principles of health economics, audit and quality improvement/assurance systems.
- Establishing patient registers and the value of disease-specific registers.
- Research into educational principles for both healthcare practitioner and patient.

Learning Outcomes

1. Select and apply different methodological perspectives and tools to answer research questions.
2. Critically analyse and interpret research.

Module 8 - Professional Project

Aim of the module:

- To develop students' ability to critically appraise specific areas of clinical, research and/or organisational practice and develop skills in independent research, study and writing for publication.

Synopsis of module content:

- Literature review and appraisal of the evidence.
- Audit of practice including organisational or clinical.
- Review and implementation of evidence-based practice.
- Qualitative or quantitative research (formal research involving human subjects is not anticipated).
- Case(s)-based and quality of service review with critical appraisal.
- Case report, review of literature and organisational assessment.



Teaching Methods

Our courses are conducted entirely online through our online learning platform. However, you will receive guidance throughout with tutor-stimulated academic discussions, which are based on clinically-rich case scenarios. These usually occur within groups of 10-15 students, allowing you to clearly communicate with both your tutor and fellow students.

You will participate in a combination of group and individual activities, which are recorded in a reflective journal. This innovative teaching method enables you to envisage the translation of your studies into your every day work and practice.

Our dedicated Student Support Team are also available to help with any problems you may face. From navigating our online platform to advising you on deadlines, our team can assist with any questions or challenges you may have along the way.

Study skills week

Once you have secured your place on the course, you will be required to attend our Study Skills week. This will give you the opportunity to participate in workshops on Harvard referencing, scientific and reflective writings, and levels of evidence in preparation for your studies. It is compulsory for you to attend this induction, as it'll provide you with a sturdy introduction to the course.

Clinical Physiology Postgraduate Diploma

Entry Requirements

Documents required:

- A copy of your updated CV including your address and date of birth.
- A copy of your undergraduate degree certificate.
- The name and email address of someone who is able to provide a reference. This can be a work colleague, employer or former tutor.
- A detailed personal statement explaining why you would like to undertake the course.

Applicants should submit copies of the following with their application:

Proficiency in the English language is also essential to completing our courses. If English is NOT your first language, we ask for proof of competency during the application process. We are able to accept an IELTS overall score of 6.5 (with a minimum of 6.0 for each band) or an equivalent qualification.

Since our courses are conducted entirely online, they are accessible to both UK and international registered healthcare professionals.

Applicants will typically hold a first degree or equivalent (including international qualifications) in a relevant professional healthcare field, such as a medical or nursing degree. Registered healthcare professionals without these recognised qualifications will be considered on an individual basis and a wide range of prior experience may be taken into account.

In some cases, applicants may be asked to submit a piece of work for assessment in order to confirm that they are able to work comfortably at postgraduate level, and demonstrate the requisite clinical and professional knowledge.





What do our students think?

Since 2010, over 8000 students have progressed their medical career by enrolling in one of our qualifications. We ourselves have learned a lot during this time and continually seek to improve the student learning experience. Here is what some of our previous students have said:

"I found the online learning very interesting. It enabled me to save money and time."

Dr Imad Eddin Rahamtalla, Doctor

"I strongly recommend Diploma MSc to all those busy physicians who are working in remote areas and wish to upgrade their knowledge."

Dr Junaid Zaffar, Diabetologist

"The learning was fun and enjoyable. The course was awesome and it increased my confidence."

Dr Sankar Nath Jha, Assistant Professor

"I found learning with Diploma MSc interesting, it helped to update my academic knowledge."

Dr Prasanth Kinattapurayil, Doctor

"I love that it was flexible and that I could log in at my convenience. I found this course to be very in-depth, informative, challenging and stimulating."

Kerri-Ann Best PGDip, RD



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