

BSc Physiology

UCD School of Medicine

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Physiology students Myles Patterson, David Brandon and Katie Thursfield working on an experiment in the Conway institute
Photo by Niall Hayes © UCD 2014

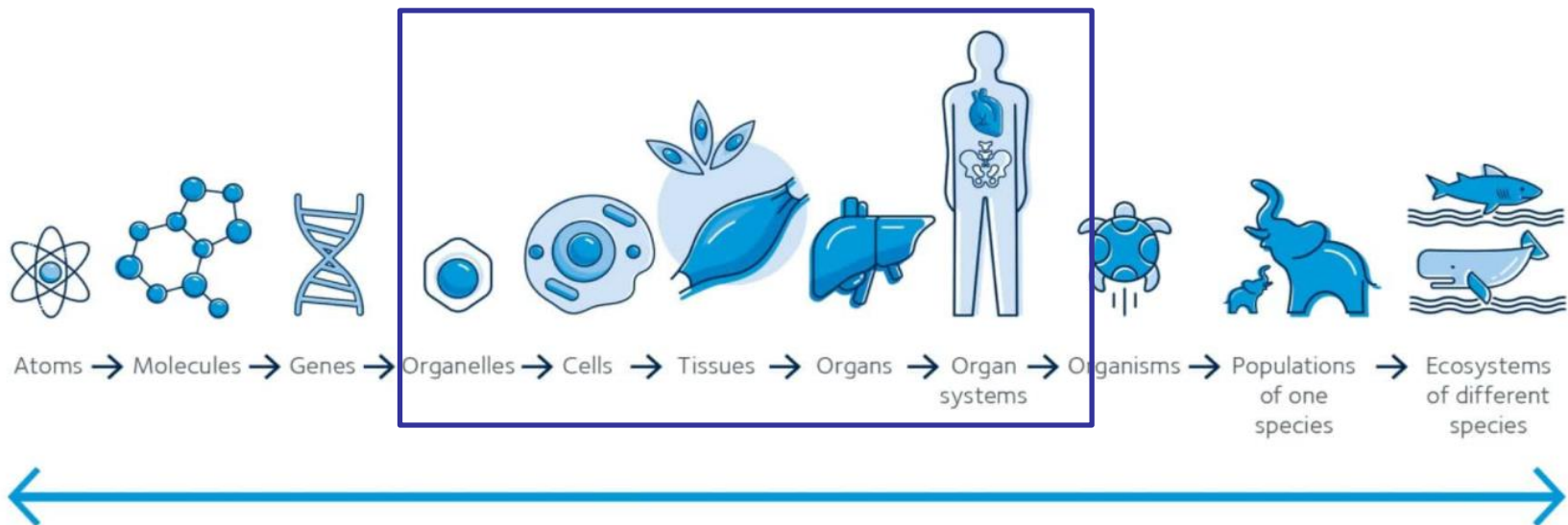
Physiology: Understand normal and abnormal processes within the body in health and disease. Explore various body tissues and their functions as well as an understanding of the structure and function of key biomolecules.

Sample pathway for a degree in Physiology
DN200 Biological, Biomedical and Biomolecular Science (BBB)

DN200 BBB

What is Physiology

- » Students learn how cells interact in tissues and organs, and how organs function and interact to allow our bodies to function
- » Physiologists are at forefront of medical research
- » Pathophysiology of disease



Physiology is the science of life



What Career Options do I have?

- » Biomedical Research
 - Academia / Industry
- » Clinical trials
- » Pharmaceutical sales and advisory roles
- » Science writing
- » Various hospital roles
- » Graduate Entry Medicine
- » Graduate Entry Veterinary Medicine
- » Masters in Physiology / Physiotherapy / Anatomy / Nutrition and Dietetics
- » Teaching



Programme Overview

Stage 2

PHYS20040: Cell
and Tissue
Physiology

PHYS20030:
Organ and
Systems
Physiology

Stage 3

Increased Focus
on Organ
Physiology.

Introduction to
lab skills and
increased critical
thinking.

Stage 4

Increased Focus
on Research*
and Literature.

Stage 3: Core Modules

Autumn

NEUR30080
Membrane biology

PHYS30010
Cardiovascular
Physiology

PHYS30090 Digestion
and Excretion

STAT20070 Data
Modelling for Science

Spring

PHYS30020
Respiratory Physiology

PHYS30040
Endocrine Physiology

PHYS30190
Experimental
Physiology

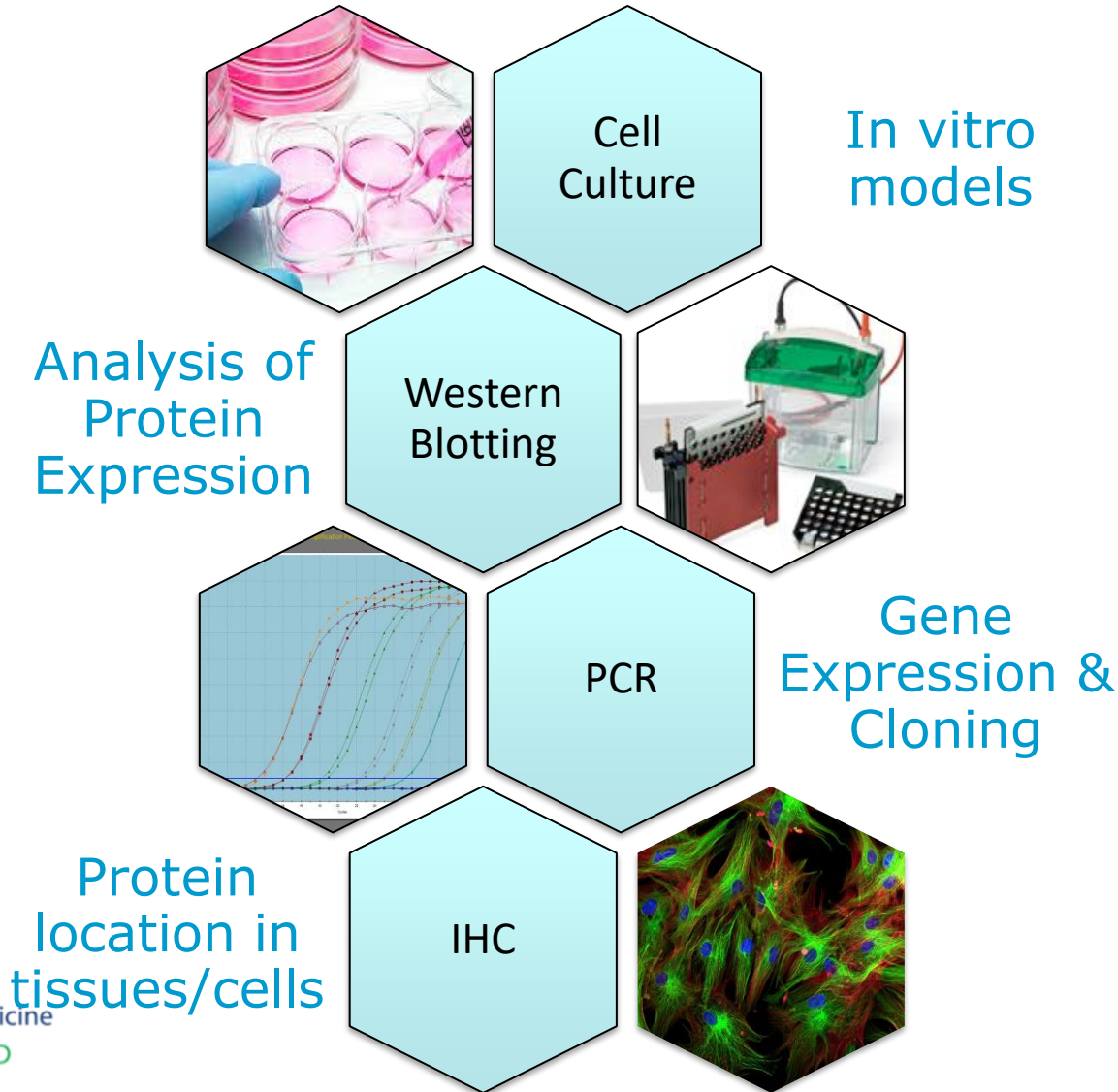
PHYS30270
The Brain and Motor
Control

Summer

SSRA (option)
Credits go towards
stage 4



PHYS30190: Core Practical Laboratory Skills



Stage 4: 2 Core Modules

Autumn

PHYS40170
Fundamentals of
Physiological Research

Spring

PHYS40060 Physiology
Research Project
(20 credits)

Summer

Graduation!



Learning Environment: The Supervisors

- » Fifteen active research groups within Physiology
 - Pulmonary physiology/disease
 - Cardiovascular physiology/disease
 - Platelet biology
 - Neurophysiology/disease
 - Gastrointestinal physiology/disease
 - Oxygen sensing
 - Molecular physiology of cancer
 - Carbon dioxide sensing
 - Diabetes complications



Communication



Data Analysis



Biomedical
Research
Skills



Critical
Appraisal
of
Literature



Ethics



Scientific Writing

Stage 4: At least 5 from this list

PHYS30110	Adaptation to hypoxia
PHYS30160	Control of Vascular Resistance
PHYS30250	Haemostasis and Thrombosis
PHYS30280	Brain Disorders
PHYS30180	Physiological Genomics
PHYS30260	The Physiology of Disease



Stage 3 / 4 Options

- »Cell signalling
- »Bioinformatics
- »Chemotherapeutic agents
- »Drugs used in CNS diseases
- »Evolutionary Biology
- »Anatomy III
- »Biochemist's Toolkit
- »Molecular basis of disease
- »Genetic Basis of Disease
- »Molecular pharmacology
- »Medical Imaging (Clin/Res)
- »Professional Placement-Science
- »SSRA – Summer Research project



Why Physiology?

- Small groups
- Enhanced interactions
- All Lab-based research projects
- Great career prospects

Questions: John.Baugh@ucd.ie



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