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

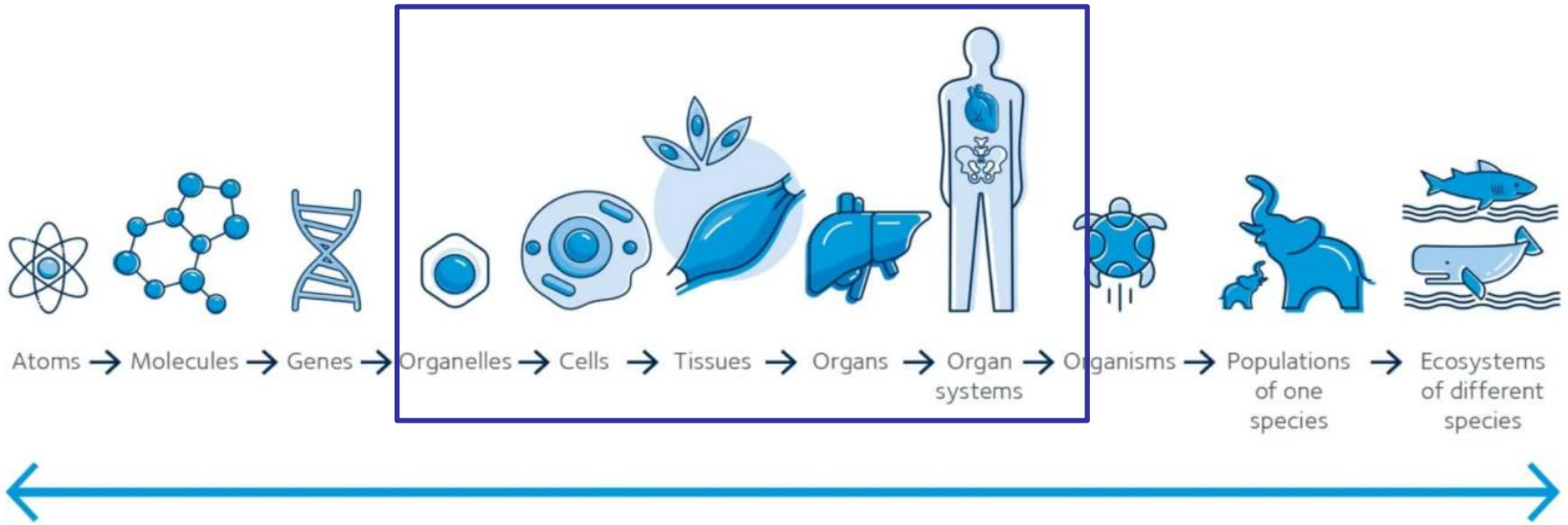
Physiology: Understand normal and abnormal processes within the body in health and disease. Explore various body tissues and their functions as well as an understanding of the structure and function of key biomolecules.

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

DN200 BBB

What is Physiology

- In UCD School of Medicine we focus on human 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



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https://www.physoc.org/explore-physiology/what-is-physiology/

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

UCD Conway Institute of Biomolecular & Biomedical Research

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.

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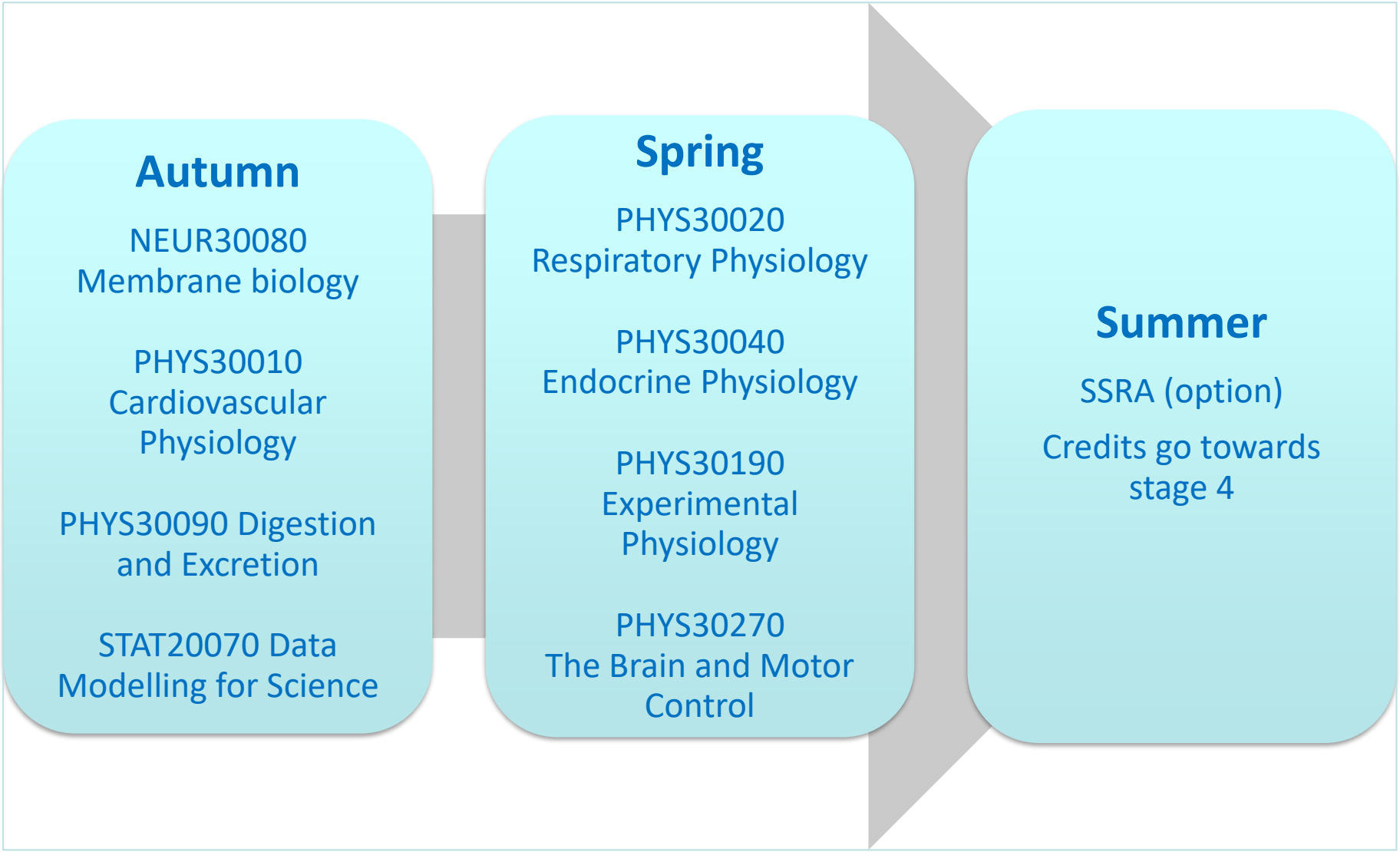
*One-on-One tuition in research laboratory

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
  - Inflammation, tissue remodelling and fibrosis

Stage 3: Core Modules



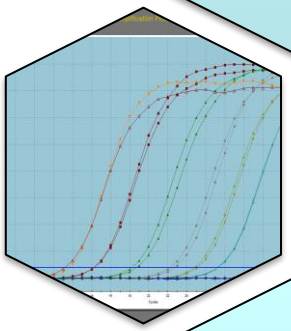
PHYS30190: Core Practical Laboratory Skills

Cell Culture

In vitro models

Analysis of Protein Expression

Western Blotting

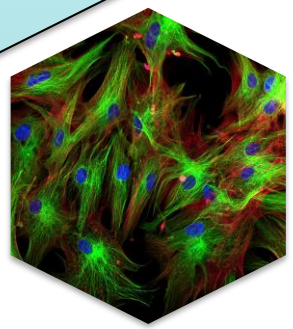


PCR

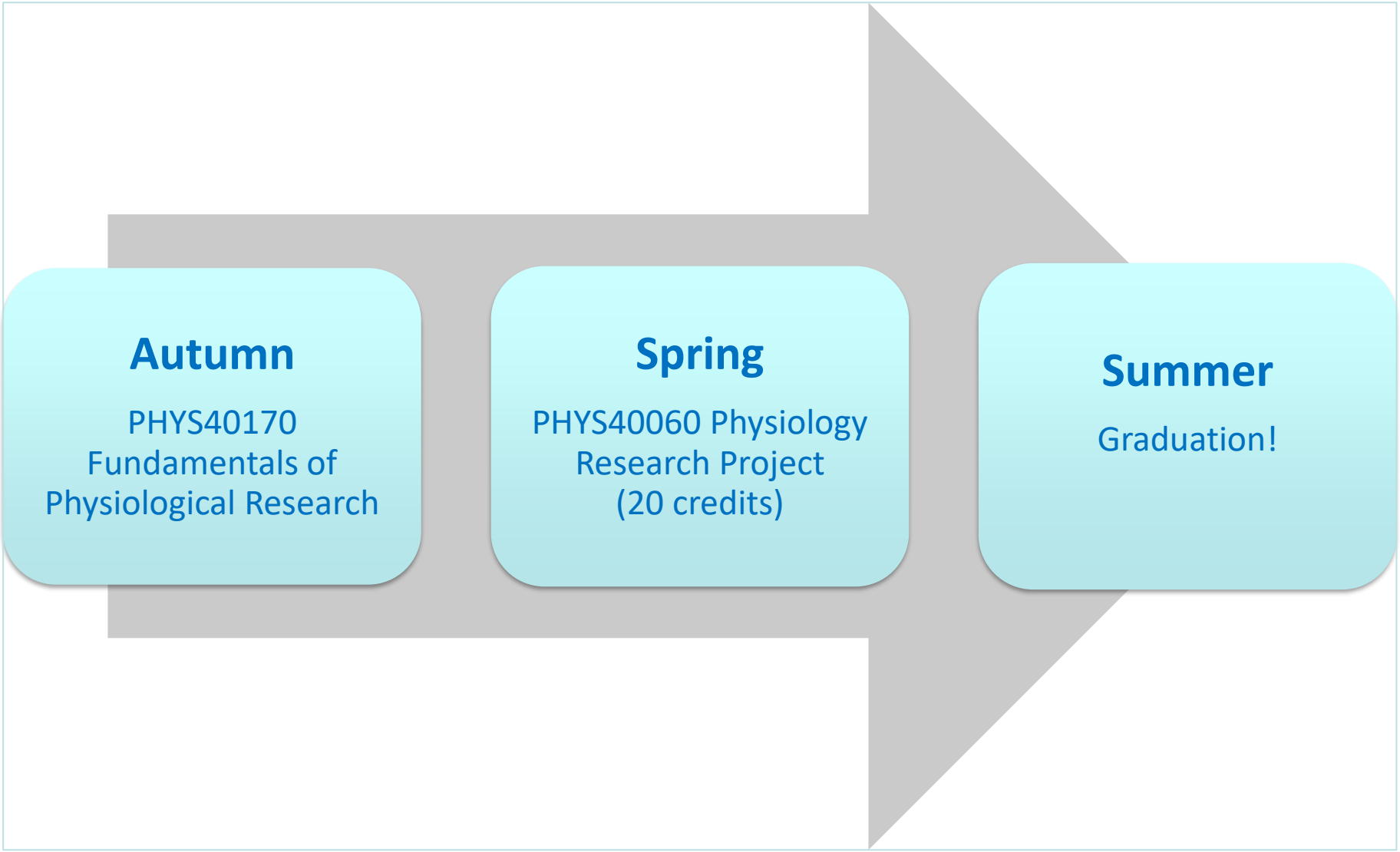
Gene Expression & Cloning

Protein location in tissues/cells

IHC



Stage 4: 2 Core Modules



PHYS40170

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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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