Module Descriptor for CNWY40120 in 2025/2026

Short Title	Long Title	Subject Area	College	School/Unit	Last Modified
Advanced Biological Imaging	Advanced Biological Imaging	Conway Institute	Research Inst & Other Entities	UCD Conway Institute	25 Jul 2025

UCD Level	Credits (ECTS)	Semester/Trimester	Grade Scale	VLE Setup	Module Coordinator	Status
4 - Masters	5.0	Autumn	Letter grades	Start of Trimester	Dimitri Scholz	Active

Mode of Delivery	Internship Module	Module Type	Micro-credential Module	Active & Collab Learning Space
Face-to-Face	No	Research/Capstone Module	No	Yes

Overall Places	Core/Option	General Elective	First Year Elective	International	Open Learning
40	40	0	0	0	0

Purpose & Overarching Content

This module is designed for students who wish to understand and become critically aware of the principles, practice and applications of rapidly developing imaging technologies. Particular focus is given to transmission and fluorescent light-based imaging approaches. A series of lectures will inform about the concepts of imaging and microscopy; importance of resolution and its limits; optical components; application of histology, immunohistochemistry and immunofluorescence; basics of confocal microscopy, light sheet microscopy, super resolution microscopy, multi-photon microscopy, high content screening microscopy; techniques in light microscopy and live cell imaging; and also the relationship between light microscopy and electron microscopy. Complementary workshop sessions will provide context to lectures, allowing students to appreciate the practicalities of specific imaging modalities.

Learning Outcomes

On completion of this module students will have extensive insight into the diversity of light microscopes available and associated techniques that can be applied in the study biological samples.

Approaches to Teaching and Learning

All right

Student Effort Hours

Student Effort Type	Hours
Contact Time	
Laboratories	12
Lectures	15
Total Contact Time	**27**
Autonomous Student Learning	
Autonomous Student Learning	98
Total Autonomous Student Learning	**98**
Total	**125**

FTE Breakdown

School	FTE
S006 - School of Biology and Environmental Science	50
S123 - Fees,State & Research Activity	50

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Assessment Details

Assessment Type	Description	Timing	Open Book?	% of Final Grade	Component Scale	Must-Pass?	In-module Component Repeat Offered?
Exam (In-person)	Short questions - short answers	Week 15		50	Graded	No	No
Exam (In-person)	short (5-10 minutes) PowerPoint presentation	Week 15		50	Graded	No	No
Total				**100**			

Carry Forward of Passed Components
No

Feedback Strategy

Feedback Strategies	Sequence of Feedback
- Feedback individually to students, post-assessment	

Remediation Strategy

Remediation Type	Remediation Timing
In-Module Resit	Prior to relevant PEB

Incompatible Modules

Module ID	Module Title
BIOL40560	Biological Imaging

Associated Staff

Name	Role
Ms Elaine Quinn	Assistant Grader
Professor Jeremy Simpson	Assistant Grader
Mr Mark Crowley	Module Assistant
Mrs Helen Dawkins	VLE Access Only
Dr Jeffrey Glennon	VLE Access Only
Mr George Moschos-Paipetis	Module Assistant

Associated Majors

Programme	Major	Stage	Module Type
DRLSC001 - Doctor of Philosophy (Post 06)	X253 - Translational Med PhD FT	2	Option Module
DRLSC001 - Doctor of Philosophy (Post 06)	X434 - PublicHlthPhys&Sport Sc PhD PT	1	Option Module
DRLSC001 - Doctor of Philosophy (Post 06)	X237 - Medicine PhD FT	2	Option Module
DRLSC001 - Doctor of Philosophy (Post 06)	X238 - Medicine PhD PT	2	Option Module
DRLSC001 - Doctor of Philosophy (Post 06)	X254 - Translational Med PhD PT	2	Option Module
DRLSC001 - Doctor of Philosophy (Post 06)	X811 - PhD Infection Biology(SMMS) PT	2	Option Module
DRLSC001 - Doctor of Philosophy (Post 06)	X810 - PhD Infection Biology(SMMS) FT	2	Option Module
MTMED001 - Master of Science-Medicine	X846 - MSc Experimental Physiology FT	1	Option Module
DRLSC001 - Doctor of Philosophy (Post 06)	X254 - Translational Med PhD PT	1	Option Module
DRLSC001 - Doctor of Philosophy (Post 06)	X237 - Medicine PhD FT	1	Option Module
DRLSC001 - Doctor of Philosophy (Post 06)	X434 - PublicHlthPhys&Sport Sc PhD PT	2	Option Module

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Associated Majors (continued)

Programme	Major	Stage	Module Type
DRLSC001 - Doctor of Philosophy (Post 06)	X810 - PhD Infection Biology(SMMS) FT	1	Option Module
DRLSC001 - Doctor of Philosophy (Post 06)	X811 - PhD Infection Biology(SMMS) PT	1	Option Module
DRLSC001 - Doctor of Philosophy (Post 06)	X253 - Translational Med PhD FT	1	Option Module
DRLSC001 - Doctor of Philosophy (Post 06)	X433 - PublicHlthPhys&Sport Sc PhD FT	1	Option Module
DRLSC001 - Doctor of Philosophy (Post 06)	X433 - PublicHlthPhys&Sport Sc PhD FT	2	Option Module
DRLSC001 - Doctor of Philosophy (Post 06)	X238 - Medicine PhD PT	1	Option Module

For help with the information on this report, please email curriculum@ucd.ie