

MEDI09007 Advanced Cellular Pathology

Full Title	Advanced Cellular Pathology		
Status	Uploaded to Banner	Start Term	2021
NFQ Level	09	ECTS Credits	10
Module Code	MEDI09007	Duration	Stage - (26 Weeks)
Grading Mode	Numeric	Failed Element	No
Department	Analytical, Bio & Med Sci		
Module Author	Terri Muldoon		
Co Authors	Eugene McCarthy		

Module Description

This module will explore histopathology, cytopathology and molecular pathology to an advanced level in clinical diagnostic practise. There will be a particular focus on diagnosis, prognosis and treatment response prediction through morphology, proteomic and genomic testing.

Learning Outcomes

On completion of this module the learner will/should be able to:

1. Discuss the pathological basis of disease and the role of histopathology, cytopathology and molecular pathology in the detection and diagnosis of disease as part of the clinical investigation of patients
2. Critically evaluate the application of a range of diagnostic techniques in the investigation of disease at a molecular and cellular level in the cellular pathology laboratory
3. Critically evaluate current and emerging practise in cellular pathology
4. Evaluate the evidence for and current best practice in the management of a range of tumour types and where this aligns with national cancer management strategies
5. Research, evaluate, and discuss key issues within cellular pathology and communicate the results in a cogent and balanced manner

Indicative Syllabus

Disease pathogenesis at molecular, cellular and tissue level.

Molecular and pathological processes underlying a range of neoplastic and non-neoplastic diseases. Cellular structure and function of the major organs and cell pathological aberrations in a range of clinical disorders and malignant diseases. Incidence and prevalence of disease.

Oncology

Prevention, diagnosis, and treatment of cancer.

Cellular pathology techniques to diagnose of a range of clinical disorders

Diagnosis of disease through the application of a range of cellular and molecular testing modalities enabling the diagnosis, prognosis, monitoring and prediction of treatment response.

Current and emerging pathology practice in the cellular pathology laboratory

Routine, Immunocytochemistry, Omics, Precision medicine, Companion diagnostics, Clinical practice, Regulatory updates and compliance. Gene editing, Big data, informatics, Liquid biopsies and noninvasive diagnostics.

Teaching and Learning Strategy

This module is delivered online, through lectures (synchronous and asynchronous), guest lectures and tutorials and self-directed study. Learning methodologies will include, but not be limited to: case studies, essays, peer reviews and critical reflection. Online learning technologies will be used and active and independent learning is expected from learners.

Assessment Strategy

Formative assessments will be given throughout the module and will take the form of MCQs, short answer questions, verbal presentations, and analysis exercises.

A range of summative assessments will be used to assess a student's knowledge and understanding and developing intellectual and transferable skills. These will include verbal presentations, written assignments, data analysis and interpretation exercises, analytical method analysis and evaluation and formal unseen written examinations consisting of short answer questions and or essays. The assessment methods will be tailored to match the material delivered. The assessments will test students' abilities to gather information from a wide range of sources, evaluate and critically analyse information, make considered judgments about that information and synthesise material into logical and coherent pieces of work. The assessment strategy for this module may include shared assessments with other modules. The modules that are co-assessed may vary from year to year but will be designed to reduce the assessment burden on the student while ensuring that learning outcomes are achieved across the programme.

Repeat Assessment Strategies

Repeat assessment will be offered in accordance with GMIT COP3, Marks and Standards.

Indicative Coursework and Continuous Assessment:		100 %		
Form	Title	Percent	Week (Indicative)	Learning Outcomes
Assignment	Written Assignment	30 %	TBA	1,2,3,4,5
Assessment	Topic Based ongoing CA	30 %	TBA	1,2,3,4
Assessment	Case Study	40 %	TBA	1,3,4,5

Part Time Delivery Mode Average Weekly Workload:			2.50 Hours		
Type	Description	Location	Hours	Frequency	Weekly Avg
Lecture	Lecture	Online	2.0	Weekly	2.00
Tutorial	Tutorial	Online	1	Fortnightly	0.50

Required Reading Book List

Feather, A., Randall, D., Waterhouse, M., (2020). *Kumar and Clark's Clinical Medicine*. Elsevier.
ISBN 0702078689 ISBN-13 9780702078682

Shambayati, B., (2018). *Cytopathology*. Oxford University Press.
ISBN 9780198717362 ISBN-13 0198717369

Dabbs, J., (2018). *Diagnostic Immunohistochemistry*.
ISBN 0323477321 ISBN-13 9780323477321

Recommended Reading Book List

Cross, S., (2018). *Underwood's Pathology*. Elsevier.
ISBN 0702072125 ISBN-13 9780702072123

Kumar, V., Abbas, K., Aster, C., (2020). *Robbins & Cotran Pathologic Basis of Disease*. Elsevier.
ISBN 032353113X ISBN-13 9780323531139

Lowe, S., Anderson, G., Anderson, I., (2019). *Stevens and Lowe's Human Histology*. Elsevier.
ISBN 0323612792 ISBN-13 9780323612791

Herrington, C., (2020). *Muir's Textbook of Pathology*. CRC Press.
ISBN 0367146711 ISBN-13 9780367146719

Tsongalis, J., (2020). *Advances in Molecular Pathology*. Elsevier.
ISBN 0323722261 ISBN-13 9780323722261

Fletcher, C., (2020). *Diagnostic Histopathology of Tumors, 2 Volume Set Edition*. Elsevier.
ISBN 0323428606 ISBN-13 9780323428606

Journal Resources

Archives of Pathology and Laboratory Medicine
American Journal of Clinical Pathology
British Journal of Biomedical Science Histopathology
Journal of Clinical Pathology
Journal of Histochemistry
Journal of Histochemistry and Cytochemistry
Journal of Pathology
Lancet
The Biomedical Scientist

Online Resources

<https://ukneqasiccish.org>
<https://www.ukneqascpt.org>
<https://www.acslm.ie>
<https://www.ibms>
<https://ncri.ie>
<https://www.icsp.ie>
<https://www.screeningservice.ie>

Other Resources

Webinars

Programme Membership

GA_SCMLG_V09 202100 Master of Science in Medical Science
GA_SCMLG_N09 202100 Certificate in Medical Science