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 %

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<th>Title</th>
<th>Percent</th>
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Part Time Delivery Mode Average Weekly Workload: 2.50 Hours

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Required Reading Book List


Recommended Reading Book List


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://ukneqasicccish.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