

## SCIE09004 Clinical Immunology, Global Infections, and Therapeutics

<b>Full Title</b>	Clinical Immunology, Global Infections, and Therapeutics		
<b>Status</b>	Uploaded to Banner	<b>Start Term</b>	2021
<b>NFQ Level</b>	09	<b>ECTS Credits</b>	10
<b>Module Code</b>	SCIE09004	<b>Duration</b>	Semester - (13 Weeks)
<b>Grading Mode</b>	Numeric	<b>Failed Element</b>	No
<b>Department</b>	Analytical, Bio & Med Sci		
<b>Module Author</b>	Joan O'Keeffe		
<b>Co Authors</b>	Eugene McCarthy		

### Module Description

This module begins with discussion of immune cells, molecules and mediators to develop your understanding and knowledge of advanced immunological concepts. The module will focus on how immune system disorders arise in allergy, autoimmunity, immunodeficiency and transplantation, and how current and modern techniques investigate and diagnose disease. This module will explore host:pathogen interactions in infections focusing on examples of the most current global infectious diseases in humans (tuberculosis, HIV/AIDS, malaria, COVID-19). You will also learn about current immunological methods such as vaccination, and monoclonal therapeutic antibodies and how they are adapted for use in the clinical setting.

### Learning Outcomes

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

1. Review of the pathophysiology, diagnosis and treatment of hypersensitivity, autoimmunity, immunodeficiency and transplantation
2. Demonstrate critical understanding of immunological testing in disease diagnosis and developing technologies
3. Critically discuss the ways in which microorganism and the host immune response affects the pathology of global infectious diseases and how this relates to clinical symptoms.
4. Read, interpret and critically analyse primary literature on the immunology of disease
5. Evaluate and discuss strategies which modulate the immune system and their therapeutics

### Indicative Syllabus

- Advanced cellular and molecular immunology
- Immune response in infectious disease
- Global infections (tuberculosis, HIV/AIDS, COVID 19, malaria)
- Laboratory testing in clinical immunology
- Primary and secondary immunodeficiency disorders
- Autoimmunity
- Allergy
- Transplantation immunology
- Current strategies in vaccine developments and monoclonal antibody therapies

### Teaching and Learning Strategy

This module will be delivered online with a mixture of synchronous and asynchronous lectures and tutorials with contributions from guest lecturers. The teaching curriculum uses applied methods such as case studies to develop problem-based learning. Peer reviews, on-line forums, critical reflections and on-line learning technologies will be used to enhance the learning experience. Learners are expected to engage in active and independent learning.

### Assessment Strategy

100% module will be in the form of continuous assessments with no final examinations. The assessment strategy is broken down as follows:

- A research based written assignment (50%)
- Topic specific assessments (20%)
- Journal article review and oral presentation (30%)
- Self and peer reviews will be employed as formative tools to support learning.

### Repeat Assessment Strategies

Repeat assessment will be accommodated in accordance with GMIT Code of Practice No.3 for 100% continuous assessment modules. The repeat assessment type will be linked to the achievement of particular learning outcomes and in line with the original assessment.

Indicative Coursework and Continuous Assessment:		100 %		
Form	Title	Percent	Week (Indicative)	Learning Outcomes
Essay	Written assignment	50 %	End of Semester	2,4,5
Closed Book Exam	Topic specific assessments	20 %	Week 6	1,2,3,4
In class exam	Journal article review and oral presentation	30 %	End of Semester	5

Part Time Delivery Mode Average Weekly Workload:			2.50 Hours		
Type	Description	Location	Hours	Frequency	Weekly Avg
Lecture	online	Not Specified	2	Weekly	2.00
Tutorial	Tutorial	Not Specified	1	Fortnightly	0.50

### Required Reading Book List

Laboratory, C., Baldwin, C., Of, H., (2015). *Clinical Immunology*. Oxford University Press, USA.  
ISBN 0199657653 ISBN-13 9780199657650

Murphy, M., Weaver, C., (2016). *Janeway's Immunobiology*. W.W. Norton & Company.  
ISBN 9780815345510 ISBN-13 0815345518

Singh, K., (2013). *Viral Infections and Global Change*. John Wiley & Sons.  
ISBN 1118297873 ISBN-13 9781118297872

Abbas, K., Lichtman, H., Pillai, S., (2018). *Cellular and Molecular Immunology*.  
ISBN 0323523226 ISBN-13 9780323523226

### Journal Resources

- Journal of Immunology
- Autoimmunity
- Clinical & Experimental Immunology
- Journal of Clinical Immunology
- Clinical Laboratory Immunology

### Online Resources

Essential of Immunology (Delves, Martin, Burton, Roitt): <http://www.roitt.com/links.asp#Resources>

The Immunology Link: <http://www.immunologylink.com/>

Immunopaedia: <http://immunopaedia.org/index.php?id=4>

Irish Society for Immunology: <http://www.irishimmunology.ie/>

### Programme Membership

GA\_SCMLG\_V09 202100 Master of Science in Medical Science  
GA\_SCMLG\_N09 202100 Certificate in Medical Science

