



Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

Department of Clinical Microbiology, School of Medicine

MSc and PGradDip in Healthcare Infection

2023-2024



Table of Contents

<i>General Information</i>	5
Student Supports: Quick Glance	5
Co-Curricular Activities.....	6
Trinity College Dublin Students' Union (TCDSU) and the Graduate Students' Union (GSU).....	6
Support Provision for Students with Disabilities.....	7
Emergency Procedures	9
Health & Safety Statement	9
COVID-19 update	10
Data Protection.....	11
<i>General Programme Information</i>	12
Introduction	12
Admissions	14
English Language Requirements	14
Timetabling	15
Course Location.....	17
Attendance Requirements	17
<i>Teaching and Learning</i>	18
Academic Integrity & Plagiarism	18
Explanation of ECTS & Weighting System.....	20
Assessment	20
MSc Research Module 5.....	23
Extensions	24
Supplementary Exams.....	24
Grading System	24
Programme Structure & Workload	25
Learning Outcomes	27
Topics & Instructors	29
Virtual Learning Environment (VLE).....	33
Thesis Formatting & Referencing Guidance.....	33
Awards	34
Feedback & Evaluation.....	34
Notice from Postgraduate Advisory Service	34
Careers Advisory Service.....	36
<i>Contact Details</i>	38
Course Committee Staff.....	38

Alternative formats of the Handbook can be made on request.

In the event of any conflict or inconsistency between the General Regulations published in the University Calendar and information contained in programme or local handbooks, the provisions of the General Regulations in the Calendar will prevail
<https://www.tcd.ie/calendar/graduate-studies-higher-degrees/complete-part-III-hl.pdf>

DISCLAIMER:

This course handbook is a working document and reasonable care has been exercised in its preparation. Please note that changes may also apply when the College Calendar is finalised by the University, or as determined by the Dean of Graduate Studies and Director of Postgraduate Teaching & Learning. No liability is accepted for any financial or other loss or inconvenience incurred due to errors or omissions in the information contained herein, or due to any changes that may apply to the course or document.

General Information

Student Supports: Quick Glance

Trinity welcomes all its students and as a TCD student you have many supports available to you. Please see below for a list of relevant supports. We hope you find this Quick Glance Page useful. If you find a site is missing, please contact us and we will add it to this list.

- **Academic Registry** | www.tcd.ie/academicregistry/
- **Academic Policies and Procedures** | www.tcd.ie/teaching-learning/academic-policies/
- **Careers Advisory Service** | www.tcd.ie/Careers/students/postgraduate/ ; www.tcd.ie/careers
- **Chaplaincy** | www.tcd.ie/Chaplaincy/
- **Complaint Procedures** | <https://www.tcd.ie/about/policies/Student%20Complaints%20Procedure.php>
- **Disability Service** | www.tcd.ie/disability/
- **Data Protection** | www.tcd.ie/info_compliance/data-protection/student-data/
- **Dublin Uni. Central Athletic Club (DUCAC)** | www.tcd.ie/Sport/student-sport/ducac/?nodeId=94&title=Sports_Clubs
- **Dignity and Respect Policy** | www.tcd.ie/equality/policy/dignity-respect-policy/
- **Graduate Student's Union (GSU)** | www.tcdgsu.ie
- **Guidelines on Plagiarism** | <https://libguides.tcd.ie/academic-integrity>
- **Health and Safety Statement** | www.tcd.ie/medicine/local/staff/health-safety.php
- **Health Centre** | www.tcd.ie/collegehealth/ ; www.tcd.ie/College_Health
- **IT Services** | www.tcd.ie/itservices/
- **Maths Help Centre** | www.maths.tcd.ie/Info_for_Schools/Maths_Helproom.php
- **Mature Students Office** | www.tcd.ie/maturestudents/
- **Online tutorial Ready Steady Write** | <https://libguides.tcd.ie/academic-integrity/ready-steady-write>
- **Orientation Programme** | www.tcd.ie/students/orientation/
- **Postgraduate Advisory Service** | www.tcd.ie/Senior_Tutor/postgraduateadvisory/
- **Student Services** | www.tcd.ie/corporate-services/structure/student-services/
- **Student Counselling Services** | www.tcd.ie/Student_Counselling/
- **Student societies** | <http://trinitysocieties.ie/>
- **Student Representation Structures** | www.tcdgsu.ie/becomearep/
- **Senior Tutor Services** | www.tcd.ie/seniortutor/
- **TCD sports** | www.tcd.ie/Sport/
- **TCD Student's Union (TCDSU)** | www.tcdsu.org

Co-Curricular Activities

As a TCD student you can join any of the TCD societies. See the Central Societies Committee's website for details on all societies and how to join <http://trinitysocieties.ie/>

TCD sports | <https://www.tcd.ie/Sport/>

DUCAC |

http://www.tcd.ie/Sport/student-sport/ducac/?nodeId=94&title=Sports_Clubs

Trinity College Dublin Students' Union (TCDSU) and the Graduate Students' Union (GSU)

Trinity College Students' Union is the union for students, by students. We represent you at college level, we fight for your rights, we look after your needs, and we are here for you to have a shoulder to cry on or as a friend to chat with over a cup of tea!

TCD Student's Union (TCDSU) | <https://www.tcdsu.org>

Trinity's Graduate Students' Union (most commonly referred to as the GSU) is the main representative body for all postgraduate students in College.

Graduate Student's Union (GSU) | <https://www.tcdgsu.ie>

All courses in TCD are required to elect a student representative and as such you will be asked to elect a representative for the MSc in Healthcare Infection course. This representative will become a member of the GSU council, which meets four times a year. For more information on the GSU council and **student representation structures** visit <https://www.tcdgsu.ie/becomearep/>

Support Provision for Students with Disabilities

Trinity has adopted a Reasonable Accommodation Policy that outlines how supports are implemented in Trinity. Student seeking reasonable accommodation whilst studying in Trinity must apply for reasonable accommodations with the Disability Service in their student portal my.tcd.ie. Based on appropriate evidence of a disability and information obtained from the student on the impact of their disability and their academic course requirements, the Disability Staff member will identify supports designed to meet the student's disability support needs. Following the Needs Assessment, the student's Disability Officer prepares an Individual Learning Educational Needs Summary (LENS) detailing the Reasonable Accommodations to be implemented. The information outlined in the LENS is communicated to the relevant School via the student record in SITS.

Examination accommodation and deadlines

Students should make requests as early as possible in the academic year. To ensure the Assessment, Progression and Graduation Team can set your accommodations for examination purposes the following deadlines are applied:

- Semester 1 assessments: the last Friday in September (to be confirmed)
- Semester 2 assessments: the last Friday in January (to be confirmed)
- Reassessments: the last Friday in May (to be confirmed)

Student responsibilities for departmental assessments/course tests

- Students are required to initiate contact with the School/Department and request reasonable accommodations as **per their LENS report, or email received following their needs assessment** for particular assessments for School/ Department administered assessment. Students are advised to make contact **at least two weeks prior** to the assessment date to enable adjustments to be implemented.

Professional Learning Education Needs Summary - PLENS

Students with disabilities on professional courses in receipt of reasonable accommodation provided by College the Disability Service will be issued a PLENS report and are provided with supports such as examination and academic reasonable accommodations. In the background section of the PLENS the following text is included:

Student is encouraged to discuss any disability supports required on professional course and placement with the Academic contact and/or Placement Co-ordinator of their course. Student can be referred back to Disability Service for placement planning supports - Level 2 - Placement Planning, if and when required.

Students are encouraged to speak with the placement co-ordinator if they are unsure of any needs for placement supports. Students can be referred back to Disability Service for placement planning supports, if and when required. More Information on placement supports offered are linked [here](#)

Please note: no reasonable accommodation can be provided outside the procedures outlined in the Trinity [Reasonable Accommodation Policy](#).

More detailed text on placement planning and supports can be found at the following link:

<https://www.tcd.ie/disability/services/placement-planning.php>

Emergency Procedures

In the event of an emergency, dial **Security Services on extension 1999**. In St James's you may additionally dial **2147** to get through to the Trinity Centre front desk.

Security Services provide a 24-hour service to the college community, 365 days a year. They are the liaison to the Fire, Garda and Ambulance services and all staff and students are advised to always telephone extension **1999 (+353 1 896 1999)** in case of an emergency.

Should you require any emergency or rescue services on campus, you must contact Security Services. This includes chemical spills, personal injury or first aid assistance.

It is recommended that all students have at least one emergency contact in their phone under ICE (In Case of Emergency).

Health & Safety Statement

The School of Medicine Health and Safety Statement can be found at <https://www.tcd.ie/medicine/local/staff/health-safety.php>

COVID-19 update

All teaching has returned to face-to-face in Trinity College Dublin. For guidance on any changes to teaching that may arise over the year please see <https://www.tcd.ie/about/return-to-campus/>

Face coverings are no longer compulsory in Trinity. Most lectures and labs for the MSc take place in the Central Pathology Building on the St James's hospital campus. Some healthcare settings may require a face mask, please refer to local policy.

For frequent updates please refer to the college website and the following handles and twitter feeds:

- <https://www.tcd.ie/about/coronavirus/>

- <https://twitter.com/tcddublin>

- Provost's or College's Twitter account:

e.g. [@TrinityMed1](#), [@LindaDoyle](#), [@tcddublin](#)

Students should contact the course staff if they have any COVID related queries specific to their courses. The Course Director, Course Co-Ordinator, Module Co-Ordinator, Executive Officer and Staff can be contacted.

Feeling Unwell: If you feel unwell and have any symptoms stay home, self-isolate and refer to public health guidance. Please also email the course coordinator (renwickj@tcd.ie).

TCD GP Clinics are open by phone on **01 896 1591** or **01 896 1556** from 9.30am-12pm and 2-4pm. ****Do not visit the doctors, call in advance****

Data Protection

For information on student data protection please visit

https://www.tcd.ie/info_compliance/data-protection/student-data/

General Programme Information

Introduction

In recent years there have been increasing challenges due to healthcare infections, especially in our hospitals. To some extent this reflects the advances that have been made in medical practice with more invasive procedures but there are also growing populations of susceptible elderly and immunocompromised individuals. Whilst pathogens such as Meticillin Resistant *Staphylococcus aureus* (MRSA) and *Clostridioides difficile* justifiably receive prominence in the media, there are other equally important and emerging infectious threats such as SARS-CoV-2, Carbapenem resistant *Enterobacteria*, glycopeptide-resistant Enterococci, multi-drug resistant *Mycobacterium tuberculosis* (MDR-TB) and penicillin resistant Pneumococci. It should also be appreciated that some of the historically important pathogens in the community are undergoing a resurgence, for example invasive Group A Streptococcal Infection (the 'flesh eating bug' causing necrotising fasciitis) and influenza, whilst new infectious threats which can cause healthcare associated infections continually emerge e.g. SARS-CoV-2, Ebola, Zika and vCJD.

Current preventive strategies including community-based immunisation programmes and hospital-based infection control policies, are under continual pressure to respond to these challenges. Outside of the many public health concerns associated with these infectious agents, the financial burden arising from the direct and indirect costs of infection constitute a drain on limited healthcare resources. In the modern healthcare setting, the effective management of infection invokes the skills and expertise of a wide range of medically- and scientifically-qualified professionals.

A comprehensive understanding of the principles and practice of infection control and epidemiology is required for the effective management of healthcare infection.

The MSc and PGradDip in Healthcare Infection are level 9 NFQ (Irish National Framework of Qualifications) postgraduate qualifications that are offered by Trinity College Dublin to meet the need for a multi-disciplinary approach to modern

healthcare infection control. These courses provides specialist teaching in healthcare infection and its control and is delivered by the Department of Clinical Microbiology, School of Medicine in conjunction with partner organisations including St James's and Tallaght Hospitals. The course also includes input from overseas experts in the area of healthcare infection.

The MSc and PGradDip in Healthcare Infection are primarily, but not exclusively, aimed at medical microbiologists, infectious diseases physicians, antimicrobial pharmacists, medical scientists, Infection Prevention Control Nurses & Practitioners and public health workers. The MSc in Healthcare Infection can be taken as either a 1-year full-time degree (Course Code: DPTMD-HIMA-2F09), or as a 2-year part-time degree (Course Code: DPTMD-HIMA-2P09). The PGradDip in Healthcare Infection can be taken only as a 1-year full-time degree (Course code: DPDMD-HIMA-2F09).

Admissions

Applications will normally be received from those who hold one of the following qualifications:

- An honours degree in Medicine, Biomedical Sciences, Nursing, Pharmacy, or Microbiology
- An honours degree in another relevant science subject

Applications may also be received from individuals with a minimum three years of relevant healthcare experience and suitable qualifications. **Note:** a 2.1 grade or equivalent must be achieved in your undergraduate degree to qualify for admission to this course. Applicants meeting these requirements may be required to attend for interview.

Applications are to be submitted by the end of June each year via the TCD web portal:

<https://www.tcd.ie/courses/postgraduate/az/course.php?id=DPTMD-HIMA-1F09>

English Language Requirements

All applicants whose first language is not English and who have not been educated through the medium of English must present a qualification in English language e.g. IELTS, Grade 6.5 overall (no band grade below 6.0) www.ielts.org (Please note that test scores are only valid for two years).

For further details on the English Language Proficiency Tests acceptable to TCD please see:

<https://www.tcd.ie/study/apply/admission-requirements/postgraduate/index.php>

Timetabling

In order to accommodate sufficient time for the research project and dissertation the MSc is offered on an approximate 12-month basis for the 1-year full-time degree, and on an approximate 24-month basis for the 2-year part-time degree. The PGradDip is offered on an approximate 12-month basis for the 1-year full-time degree. The MSc and PGradDip are scheduled to run from September in the commencement year to August in the completion year.

Where possible, teaching will be *mainly* concentrated into the modular blocks listed below. Were teaching to occur outside blocks, reasonable notice will be given and where possible teaching might also be delivered asynchronously. Additionally, site visits and lectures may occur outside of the teaching blocks to facilitate social distancing and government safety guidelines in relation to COVID-19.

Individual module timetables will be made available via Blackboard 2 to 3 weeks before the beginning of that module.

Below is a provisional timetable for the year
(*all below dates are TBC and subject to change*):

Module 1: Basic and Molecular Microbiology (CM7007-A-Y-202324)

Week 1: 18th – 22nd September 2023

Week 2: 2nd – 6th October 2023

Module 2: Antimicrobial Therapy & Resistance (CM7003-A-Y-202324)

Week 1: 23rd – 27th October 2023

Week 2: 6th – 10th November 2023

Module 3: Epidemiology & Infection Control (CM7002-A-Y-202324)

Week 1: 27th Nov – 1st December 2023

Week 2: 11th – 15th December 2023

Module 4: Multidisciplinary Management of Infection (CM7004-A-Y-202324)

Week 1: 8th – 12th January 2024

Week 2: 22nd – 26th January 2024

Module 5 (MSc students only): Research Project (CM7005-A-Y-202324)

Lab work starts: 12th February 2024

Lab work ends: 3rd May 2024

Thesis submission: 27th May 2024

Students must also be in attendance on additional scheduled module assessment dates and class times as notified by the module convener or course director/ course coordinator.

It is expected that part-time students will successfully complete at least two taught modules in the first year of the Masters prior to progression to the second year of the Masters. The multi-disciplinary Module 4 should ordinarily be taken after successful completion of Modules 1 to 3.

Course Location

The MSc and PGradDip in Healthcare Infection will be mainly based at the St James's Hospital campus of Trinity College Dublin (<http://goo.gl/PLZ22H>). Teaching will usually be held in the Frances Hogan Seminar Room, Sir Patrick Dun Laboratory, Central Pathology Laboratories, St James's Hospital campus, and other associated healthcare institutions may also be utilised for teaching. The course may include visits to additional hospital, public health or industrial locations for the purpose of on-site demonstrations or presentations relevant to the course teaching. Additional teaching will be hosted online through the use of a Virtual Learning Environment (VLE) in the form of Blackboard Collaborate.

Attendance Requirements

Students must attend all of the scheduled class times and assessments. Any absence for a course time must be notified in advance by email to the relevant module convener and where appropriate, should be accompanied by relevant documentation such as a medical certificate. Repeat absences may be notified to the Course Director/ Course Coordinator. Further details on regulations for absence from lectures and exams **Calendar, Part II, General Regulations and Information** <https://www.tcd.ie/calendar/graduate-studies-higher-degrees/complete-part-III.pdf>

Teaching and Learning

Academic Integrity & Plagiarism

It is important that students are aware of the University's guidelines on plagiarism.

These are available at: <https://libguides.tcd.ie/academic-integrity>

As stated in the General Regulations of the University of Dublin Calendar (paragraph 1.32 and following):

“Plagiarism is interpreted by the University as the act of presenting the work of others as one's own work, without acknowledgement. Plagiarism is considered as academically fraudulent, and an offence against University discipline“

The University considers plagiarism to be a major offence, and subject to the disciplinary procedures of the University.

Plagiarism can arise from deliberate actions and also through careless thinking and/or methodology. The offence lies not in the attitude or intention of the perpetrator, but in the action and in its consequences.

- a. copying another student's work;
- b. enlisting another person or persons to complete an assignment on the student's behalf;
- c. quoting directly, without acknowledgement, from books, articles or other sources, either in printed, recorded or electronic format;

All students will be required to complete the online tutorial 'Ready, Steady, Write' <https://libguides.tcd.ie/academic-integrity/ready-steady-write>. Written assessments will also require a cover sheet stating:

“I have read and I understand the plagiarism provisions in the General Regulations of the University Calendar for the current year, found at <https://libguides.tcd.ie/academic-integrity/declaration>.

I have also completed the Online Tutorial on avoiding plagiarism ‘Ready Steady Write’, located at <https://libguides.tcd.ie/academic-integrity/ready-steady-write>

The Turnitin software inbuilt in Blackboard will be used by course staff to examine written submissions for academic integrity. Suspected cases of plagiarism will be reviewed by the relevant course instructors and may be referred to the Head of Discipline/ School. In cases where plagiarism is deemed to have occurred, the piece of work in question may receive a reduced mark, a mark of zero, or may be required to be resubmitted changing only the plagiarised content (other content should not be altered). Students are strongly advised to read the resources on plagiarism that are available, and to consult their module conveners and project supervisors prior to submitting written assessments or theses for examination. As per the Calendar,

“It is the responsibility of the author of any work to ensure that he/she does not commit plagiarism.”

For further information on plagiarism levels and consequences please visit: <https://libguides.tcd.ie/academic-integrity/levels-and-consequences>

Generative Artificial Intelligence (GenAI)

Emerging developments in GenAI such as ChatGPT and AI-supported ghost writing services pose particular challenges for safeguarding academic integrity. Breaches of academic integrity, whether human-generated or AI-generated, can contribute to an ‘undeserving’ degree award or progression status, with the potential to compromise Trinity’s degree award standards.

While the use of AI for generating content for assignments is not prohibited, we do discourage its use. If GenAI software of any kind is used for an assignment (or part thereof), it must be acknowledged by referencing the source of the material.

Explanation of ECTS & Weighting System

The **European Credit Transfer and Accumulation System (ECTS)** is an academic credit system based on the estimated student workload required to achieve the objectives of a module or programme of study. It is designed to enable academic recognition for periods of study, to facilitate student mobility and credit accumulation and transfer. The ECTS is the recommended credit system for higher education in Ireland and across the European Higher Education Area. The ECTS weighting for a module is a measure of the student input or workload required for that module, based on factors such as the number of contact hours, the number and length of written or verbally presented assessment exercises, class preparation and private study time, laboratory classes, examinations, clinical attendance, professional training placements, and so on as appropriate. There is no intrinsic relationship between the credit volume of a module and its level of difficulty.

The European norm for full-time study over one academic year is 60 credits. 1 credit represents 20-25 hours estimated student input, so a 10-credit module will be designed to require 200-250 hours of student input including class contact time, assessments and examinations.

ECTS credits are awarded to a student only upon successful completion of the programme year. Progression from one year to the next is determined by the programme regulations. Students who fail a year of their programme will not obtain credit for that year even if they have passed certain component. Exceptions to this rule are one-year and part-year visiting students, who are awarded credit for individual modules successfully completed.

Assessment

A 50% pass mark is required for each module including the research dissertation and each component of a module should be passed. The resulting mark from each repeated component will be capped at 50%. All modules are designated non-compensatable. In order to be awarded the MSc or PGradDip with Distinction, students must achieve an overall credit-weighted average mark for the course of 70%

or above. This must include a distinction mark in at least 2 of the taught modules and no fail grade in any module or component thereof. Additionally and specifically to be awarded an MSc with Distinction, students must also achieve a distinction for the research dissertation (70% or above). Assessment will be based on a combination of in-course work and summative assessment for each taught module.

For the MSc, 70% in total will be allotted to the assessment of Modules 1 to 4, whilst the remaining 30% of marks will be derived from assessment of the research dissertation (module 5) accumulating to a total of 90 ECTS. For the PGradDip, 100% in total will be allotted to the assessment of Modules 1 to 4, accruing a total of 60 ECTS. Table 1 illustrates the marks allocated to each module.

Table 1. Percentage mark allocation for each module.

Module	ECTS		Marks	
	MSc	PGradDip	MSc	PGradDip
1	15	15	17.5 %	25 %
2	15	15	17.5 %	25 %
3	15	15	17.5 %	25 %
4	15	15	17.5 %	25 %
5*	30	NA	30 %	NA
TOTAL	90	60	100 %	100%

NOTE: changes may apply to the assessment guidelines when the 2020/2021 College

** Module 5 is for the MSc students only.*

NA = not applicable

Calendar is finalized by the University, or as determined by the Healthcare Infection Course Committee or Course Coordinator/Course Director. Should changes apply to the MSc Healthcare Infection assessment, they will be notified as appropriate.

Taught Modules (1-4):

Within each of the taught modules 1 to 4, types of assessments to be used may include:

- Written essay
- Debates
- Journal club/presentations
- Laboratory assignment
- Written exam which may be composed of essay questions, EMQ and SBF tests
- Viva voce
- Blogs

While the assessment percentage for each of module 1 to 4 will be 17.5%, assessment type and weighting may vary between modules depending on the requirements of each module.

The penalty for **late submission** of an assignment is a deduction of 5% from the total mark for each week, or portion thereof, past the scheduled deadline.

MSc Research Module 5

Module 5 is assessed on a project plan presentation (5%), a written project plan (5%), an extended abstract (5%), a thesis (75%) and a final project presentation (10%). The finalized thesis for examination needs to be submitted in both electronic format as a Microsoft Word file to Blackboard and in hard copy format (2 bound copies) to the Course Coordinator by the scheduled deadline. The thesis will be marked by two examiners; the project supervisor, an internal TCD examiner and may be moderated by the external examiner.

A thesis received after the scheduled deadline will be recorded as a late submission. The penalty for **late submission of a thesis** is a deduction of 5% from the total mark for each week, or portion thereof, past the scheduled deadline. Thesis extension requests must be submitted, prior to the submission deadline, to the Course Coordinator/Course Director in writing and accompanied by appropriate supporting documentation in the form of a medical certificate or equivalent for consideration. The granting of an individual request for an extension to the thesis submission deadline will be at the discretion of the Course Coordinator/Course Director who may consult other course staff or the Dean of Graduate Studies.

For further details on the Research project please refer to the **CM7005 Module 5 Research Project Guidelines**.

Extensions

Graduate students who have been unable, through illness or other unavoidable cause, to attend the prescribed instruction satisfactorily, may be granted credit for the term by the Dean of Graduate Studies acting on the advice of the Course Co-ordinator/Director, but must perform such supplementary exercises as the Dean of Graduate Studies may require. The onus rests with each individual graduate student to inform the Course Co-ordinator/Director of their illness; graduate students must therefore make themselves familiar with the College and course regulations regarding absence from lectures or examinations through illness. Graduate students on taught courses who find themselves incapacitated by illness from attending lectures (or other forms of teaching) should immediately see their medical adviser and request a medical certificate for an appropriate period. Such medical certificates should be given to the Course Co-ordinator/Director, as appropriate. It is the Course Co-ordinator/Director who normally makes representation to the Dean of Graduate Studies on behalf of their postgraduate student.

Supplementary Exams

Where a graduate student has failed on the coursework component, and feels that there are mitigating circumstances, he/she may make a request, in writing, to the Course Co-ordinator/Director for permission to repeat the examination(s) and/or assessment(s). The reasons for the request must be clearly stated and supported where necessary by documentary evidence. If the graduate student is granted a supplemental examination, the results of that examination will be considered to be final, i.e., repetition of the year will not be permitted

Grading System

Modules 1-5 Grading System: 70-100% I; 65-69% II-1; 60-64% II-2; 50-59% III; 0-49% F

Overall Grading System: 70-100% Distinction; 50-69% Pass; 0-49% Fail

Programme Structure & Workload

The MSc and PGradDip in Healthcare Infection aim to provide graduates with a comprehensive understanding of the multiple disciplines that must align to deliver effective control of human pathogens in the hospital and community settings. The course will provide foundation and advanced knowledge on the monitoring, prevention, diagnosis, and treatment of healthcare associated infectious diseases.

In terms of structure, the MSc and PGradDip courses are delivered in the form of 4 taught modules, which comprise a total of 60 ECTS. There is a 5th research-based module for MSc students, which comprises 30 ECTS that will enable students to acquire new laboratory skills and perform research on a topic that is relevant to contemporary healthcare.

Programme Structure

Module	Code	Title	ECTs	Convener	Email
1	CM7007	Basic & Molecular Microbiology	15	Naoise McGarry	namcgarr@tcd.ie
2	CM7003	Antimicrobial Therapy & Resistance	15	Prof Julie Renwick	renwickj@tcd.ie
3	CM7002	Epidemiology & Infection Control	15	Prof Johannes Wagener Ms Lenora Leonard	wagenerj@tcd.ie lenora.Leonard@beaconhospital.ie
4	CM7004	Multidisciplinary Management of Infection	15	Prof Tom Rogers Dr Aia Mohamed	rogerstr@tcd.ie mohameai@tcd.ie
5*	CM7005	Research Project	30	Prof Julie Renwick	renwickj@tcd.ie

* Module 5 is for the MSc students only.

For 1-year full-time MSc students, project work will commence following the conclusion of Module 4 in April. For 2-year part-time MSc students scheduling of research project should be discussed with the course coordinator.

As a guide, full-time students are expected to devote at least 40 hours per week on their Research Project over a three-month period, and part-time students are expected to devote at least 20 hours per week on their Research Project over a six-month period.

Research projects based at Trinity College Dublin, St. James's Hospital and Tallaght Hospital will be on offer to students. Students may also be given library based projects should the students skill set be more suited to this type of project. In addition, students may also undertake their project work off-campus, for example in an appropriate healthcare facility, provided a suitable project supervisor and research project have been identified and the facility's research ethics, and health and safety requirements are to be satisfied. In the latter case, a project supervisor at the relevant off-campus site and a University supervisor will be required.

Learning Outcomes

At the end of the course, graduates will be equipped with knowledge to determine the correct approach and appropriate tools for managing healthcare infections. Upon successful completion of this course, graduates will be able to perform a range of tasks that include the following:

Module 1: Basic and Molecular Microbiology (CM7007-A-Y-202224)

- i. Describe and discuss pathogens associated with human infection and disease
- ii. Recognize pathogens predominant in the hospital environment
- iii. Understand the use of serological and molecular diagnostic techniques
- iv. Critically appraise the validity of molecular test results
- v. Explain the essential principles of infection control
- vi. Become skilled in the design and deployment of nucleic acid amplification tests
- vii. Define the role of the HPSC in monitoring and controlling infectious diseases
- viii. Become proficient in writing and bibliographic tools

Module 2: Antimicrobial Therapy & Resistance (CM7003-A-Y-202224)

- i. Define the major types of antimicrobial drugs
- ii. Understand the underlying mechanisms of resistance and how resistance is acquired by important hospital pathogens
- iii. Understand how to perform antimicrobial sensitivity testing using various laboratory techniques
- iv. Distinguish between antimicrobial resistance in the hospital and community
- v. Understand how a prescribing policy for an infectious disease is developed
- vi. Analyse the results of therapeutic drug monitoring
- vii. Determine if antimicrobial therapy is working on a case-by-case basis
- viii. Understand and appraise antimicrobial stewardship principles

Module 3: Epidemiology & Infection Control (CM7002-A-Y-202224)

- i. Understand the routes for disease transmission
- ii. Describe and discuss the lab detection, epidemiology and typing of major healthcare-associated microorganisms
- iii. Define key infection prevention and control principles in a healthcare setting
- iv. Create and design outbreak strategies to control the spread of infectious disease
- v. Evaluate and appraise methodologies to prevent infection in critical areas
- vi. Track waste and contamination sources within hospitals

Module 4: Multidisciplinary Management of Infection (CM7004-A-Y-202224)

- i. Investigate the emergence of new infections
- ii. Recognise infections that are notifiable
- iii. Describe how to control an outbreak in a hospital
- iv. Evaluate the use of point-of-care diagnostics
- v. Examine the success of infection control strategies based on measurables e.g. patient outcomes, budget costs, safety to staff and other contacts
- vi. Prevention of nosocomial fungal infections and antifungal agents
- vii. Ethics and research methodologies
- viii. Infections associated with immunosuppression

Module 5: Research Project (CM7005-A-Y-202224)

- i. Formulate ideas and hypotheses with reference to literature and clinical evidence
- ii. Design and undertake new research to answer specific research questions
- iii. Record and evaluate the significance and context of research data
- iv. Present and discuss findings using various written and oral media
- v. Work to appropriate health and safety and research ethics standards in a research environment
- vi. Set personal goals and work towards achieving these goals
- vii. Demonstrate personal development throughout this process
- viii. Demonstrate an adequate level of competence with working practices used in the placement organization

Topics & Instructors

Module 1: Basic and Molecular Microbiology (CM7007-A-Y-202324)

Instructor	Affiliation	Topic
Naoise McGarry	Trinity College Dublin	Bacterial Pathogenesis, <i>E. coli</i> and other Enterobacteria
Prof Johannes Wagener	Trinity College Dublin	Immunity & Genetic Susceptibility, Infections in Immunocompromised Patients, Fungi and Fungal Infections
Prof Julie Renwick	Trinity College Dublin	Molecular Epidemiology, HCAIs, Microbiome in Health and Disease, Gram positive pathogens
Dr Margaret Fitzgibbon	St James's Hospital	TB testing
Prof Sara Doyle	Trinity College Dublin	Immunology
Ms Antoinette Power	St James's Hospital	Phenotypic detection
Dr Brian O'Connell	St James's Hospital	Principles of laboratory detection
Ms Yvonne Lynagh	St James's Hospital	Genotypic detection
Prof Joseph Keane	St James's Hospital	Tuberculosis
Mr David Mockler	Trinity College Dublin	Endnote session

Module 2: Antimicrobial Therapy & Resistance (CM7003-A-Y-202324)

Instructor	Affiliation	Topic
Prof Julie Renwick	Trinity College Dublin	History of antimicrobials, novel antimicrobials, passive resistance
Prof Johannes Wagener	Trinity College Dublin	Skin and soft tissue infections, Candida infections and resistance - interactive cases
Dr Aia Mohammed	St James's Hospital	Viral testing: Viral load and serology; Antiviral Agents and Resistance
Dr. Micheál MacAogáin	Trinity College Dublin	Gram Negative Mechanisms of Resistance, MDR pathogens, Next generation sequencing
Dr Marta Martins	Trinity College Dublin	MDR Gram negative pathogens, alternatives to antibiotics and drug repurposing
Dr Anna-Rose Prior	Tallaght University Hospital	Treatment of CNS Infections
Mr Donal Smith	Tallaght University Hospital	What the machines do and don't do, MALDI-TOF
Dr Brian O'Connell	St James's Hospital	Hospital and Nursing Home Resistance, Treatment of Bacteremia/Endocarditis
Dr Alida Talento	St James's Hospital	Antimicrobial Stewardship
Dr Jérôme Fennell	Tallaght University Hospital	Carbapenem Resistant Enterobacteriaceae: Local perspectives
Dr Grainne Brennan	MRSA reference laboratory	Gram Positive Mechanisms of Resistance: MRSA & VRE
Ms Lisa Rose	St James's Hospital	Lab detection of antimicrobial resistance
Dr Deirdre Brady	Matser hospital	Bone and Joint infections
Dr. Sadhbh O'Rourke	St James's Hospital/ TCD	Urinary tract infections
Dr. Margaret Fitzgibbon	St James's Hospital	Mycobacterial infections: treatment & resistance

Module 3: Epidemiology & Infection Control (CM7002-A-Y-202324)

Instructor	Affiliation	Topic
Prof Johannes Wagener	Trinity College Dublin/ St James's Hospital	Detection of VTEC outbreaks with next-generation sequencing
Ms. Lenora Leonard	Beacon Hospital	Standard and Transmission Based Precautions Hand Hygiene Healthcare Risk Waste Management
Dr Jerome Fennell	Tallaght University Hospital	CPE: Epidemiology & Infection Control Management
Dr. Breida Boyle	St James's Hospital	Policy for Infection Prevention in a Haematopoietic Transplant Unit, TB Risk Assessment
Ms. Judy Gannon	HIQA	HIQA & National Standards for Safer Better Healthcare
Dr. Susan Clarke	St James's Hospital	Bloodborne Viruses Current Guidance
Mr. Andrew Smith	St James's Hospital	Management of a Hospital Central Decontamination Unit (CDU)
Dr. Kirsten Schaffer	St Vincent's Hospital	Control of Multidrug Resistant Microorganisms in the Healthcare Environment
Dr. Susan FitzGerald	St Vincent's Hospital	Management of a Hospital Outbreak: Understanding Routes of Transmission,
Dr. Brian O'Connell	St James's Hospital	Surgical Site Infection Surveillance Epidemiology, clinical significance & infection prevention & control of MRSA
Ms. Grainne Brennan	MRSA Reference Laboratory	Molecular typing & surveillance of MRSA Laboratory detection of MRSA & NMRSARL
Ms. Jincy Jerry	Mater Misericordiae University Hospital	Surveillance of Healthcare Associated Infections in a tertiary hospital
Dr. Simone Mok	Irish Mycobacteria Reference Laboratory	Mycobacterium chimaera-laboratory aspects of infection
Dr. Deirdre Broderick	Cork University Hospital	Hospital Outbreak
Ms. Sabine Rowland	St. James's Hospital	Transmissible spongiform encephalopathy
Ms. Natalia Ovryakh	Sports Surgery Clinic, Dublin.	Infection Prevention Control Role, Policy & Programme
Ms. Anne Carroll	Public Health Laboratory, Cherry Orchard Hospital	SARS-CoV-2 PCR diagnostics, Detection of VTEC outbreaks with next generation sequencing
Ms. Tracy Doherty	Our Lady of Lourdes & Louth County Hospital	<i>Clostridioides difficile</i>
Ms. Anne Dempsey	Beacon Hospital	Patient safety and improvement methodologies – PDSA cycle, QIPs
Prof. Wim Meijer	University College Dublin	SARS-CoV-2 and wastewater

Note: There will be a number of additional speakers scheduled as part of the Focus on Infection symposium. This may be run as a Webinar.

Module 4: Multidisciplinary Management of Infection (CM7004-A-Y-202324)

Instructor	Affiliation	Topic
Prof. Thomas Rogers	Trinity College Dublin	Guidelines on the prevention of nosocomial aspergillosis
Dr Aia Mohamed	Trinity College Dublin	<i>S. aureus</i> infections other than MRSA
Dr. Gerry Ryan	St James's Hospital, Quality Department	Role Of The Antimicrobial Pharmacist
Ms. Karren Staniforth	Public Health England, UK	Prevention of airborne transmission; <i>Pseudomonas</i> infections
Dr. Ronnie Russell	Trinity College Dublin	Environmental disinfection, sterilisation
Dr. Noirin Noonan	St James's Hospital	Protecting healthcare staff
Dr. Peter Flanagan & Dr. Simone Mok	Trinity College Dublin	Next Generation sequencing
Dr. Nina Gosall	The Critical Appraisal Co.	Critical appraisal workshop
Prof. Malcolm Richardson	Nat. Aspergillus Cent. Manchester	Healthcare-associated fungal infections
Prof. John Moore	Queen's University	Cystic Fibrosis and <i>Pseudomonas aeruginosa</i>
Dr. Tim Boswell	Nottingham Uni Hospital	Outbreak Management
Ms. Yvonne Joyce	Hayes Solicitors	Medical negligence claims: a legal perspective
Mr. N Keeling	Legal & Risk Dept, SJH	Dealing with medicolegal issues in the hospital
Dr. Barry Lyons	Trinity College Dublin	Medical Ethics
Dr. E O'Connor	St James's Hospital	Infections complicating high dependency patient care
Dr. Eleanor McNamara	St James's Hospital & PHL Cherry Orchard	Infections complicating conflict and bioterrorism
Mr. O Shelley	St James's Hospital	Infection of burns

Virtual Learning Environment (VLE)

Blackboard Learn (mymodule.tcd.ie) is Trinity College's Virtual Learning Environment (VLE). Most of your lecture notes, online assignments and other activities will be available through Blackboard. Also individual module schedules and announcements will be made via Blackboard.

All registered staff and students automatically have accounts in Blackboard. If you are not enrolled in your modules check with your school office to ensure you are timetabled for the modules. All data in Blackboard is based on the College timetabling systems and information taken from your student record on my.tcd.ie. Blackboard requires an active TCD computer account for access. For more information on access and enrolment issues visit the IT Services VLE page.

<https://www.tcd.ie/CAPSL/resources/blackboard/>

Thesis Formatting & Referencing Guidance

Students are advised to consult and follow the university's thesis production guidelines. Information and resources on thesis planning and production are available at <http://www.tcd.ie/itservices/training/thesis.php>. Additional formatting guidelines and instructions for submitting your thesis can be found in the **CM7005 Module 5 Research Project Guidelines**.

The university's IT Services offer a course entitled "Planning Thesis Production" that will be undertaken by students as part of Module 1. The American Society for Microbiology (ASM) referencing style is recommended for the thesis (consult the Journal of Clinical Microbiology) <https://jcm.asm.org/content/49/1/1>, and other submitted written course work. Additional information on appropriate Microorganism and Genetic Nomenclature is available from the *Journal of Clinical Microbiology* at <http://jcm.asm.org/site/misc/ifora.xhtml>.

The project thesis should be 10,000 - 15,000 words. Students should state the word count on the thesis submitted for examination. Students should ensure that their thesis has been appropriately proofread and that their project supervisor has had an

opportunity to provide feedback on a draft of the thesis prior to submission for examination. The research dissertation will be assessed by the project supervisor, an internal examiner and, where required, an external examiner. Students will also be requested to give an oral presentation on their research project work. A declaration of plagiarism must also be submitted with the thesis.

Awards

The MSc and PGradDip in Healthcare Infection are level 9 NFQ (Irish National Framework of Qualifications) postgraduate qualification. It is possible to exit the MSc course with a PGradDip in certain circumstances deemed suitable by the course committee.

Feedback & Evaluation

The course will be evaluated on two occasions using on-line questionnaires; once at the end of the taught components and at the time of submission of the dissertation. Students surveys and focus groups are conducted as part of the programme review process.

Notice from Postgraduate Advisory Service

The Postgraduate Advisory Service is a unique and confidential service available to all registered postgraduate students in Trinity College. It offers a comprehensive range of academic, pastoral and professional supports dedicated to enhancing your student experience.

Who?

The Postgraduate Advisory Service is led by the Postgraduate Support Officer who provides frontline support for all Postgraduate students in Trinity. The Postgraduate Support Officer will act as your first point of contact and a source of support and guidance regardless of what stage of your course you're at. In addition each Faculty has three members of Academic staff appointed as Postgraduate Advisors who you can be referred to by the Postgraduate Support Officer for extra assistance if needed.

Contact details of the Postgraduate Support Officer and the Advisory Panel are available on our website: https://www.tcd.ie/Senior_Tutor/postgraduate/

Where?

The PAS is located on the second floor of House 27. We're open from 8.30 – 4.30, Monday to Friday. Appointments are available from 9am to 4pm.

Phone: 01 8961417

E-mail: pgsupp@tcd.ie

What?

The PAS exists to ensure that all Postgraduate students have a contact point who they can turn to for support and information in college services and academic issues arising. Representation assistance to Postgraduate students is offered in the area of discipline and/ or academic appeals arising out of examinations or thesis submissions, supervisory issues, general information on Postgraduate student life and many others. If in doubt, get in touch! All queries will be treated with confidentiality. For more information on what we offer see our website.

If you have any queries regarding your experiences as a Postgraduate Student in Trinity don't hesitate to get in touch with us.

Careers Advisory Service

Postgraduate study opens the doors to many opportunities, but the market is competitive and you will need to differentiate yourself clearly from other candidates.

Resources:

The Careers Advisory Service (CAS) provides a wide range of resources and services to help you make and implement informed choices about your future career direction.

The Careers Information Centre at 7-9 South Leinster Street contains a range of free, career-related booklets and employer materials for you to take away. Online, the resources section of the website (www.tcd.ie/Careers/resources) provides useful information on a range of topics from career choice and planning, to working abroad, taking a year out and everything in between.

Services:

Individual appointments to meet a Careers Consultant are also available. They work with you to identify how best to approach the next step in your career. They can also review your CV/LinkedIn profile and provide coaching to ensure maximum impact at interview.

Job opportunities from employers currently recruiting Trinity graduates as well as postgraduate courses and funding are available online.

CAS also offers a wide range of seminars; workshops and employer presentations, including postgrad specific events, throughout the year that will help you explore where your postgraduate study can take you.

MyCareer

An online service that you can use to:

- Apply for opportunities which match your preferences - vacancies including research options
- Search opportunities- postgraduate courses and funding
- View and book onto employer and CAS events
- Submit your career queries to the CAS team
- Book an appointment with your Careers Consultant

Simply login to MyCareer using your Trinity username and password and personalise your profile.

Careers Advisory Service

Trinity College Dublin, 7-9 South Leinster Street, Dublin 2

01-896-1705/1721 | Submit a career query through MyCareer



mycareerconnect.tcd.ie



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[@TCDCareers](https://twitter.com/TCDCareers)



[tinyurl.com/LinkedIn-
TCD-Connecting](https://tinyurl.com/LinkedIn-TCD-Connecting)

Opening Hours

During term: 9.30am - 5.00pm, Monday - Friday

Out of Term: 9.30am - 12.30pm & 2.15 - 5.00pm, Monday - Friday

Contact Details

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