

**CMOD9001: Fostering Research Integrity****Module Details**

Title:	Fostering Research Integrity APPROVED
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Long Title:	Fostering Research Integrity
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Module Code:	CMOD9001	Duration:	1 Semester
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Credits:	10
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NFQ Level:	Expert
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Field of Study:	Common Module
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Valid From:	Semester 1 - 2023/24 (September 2023)
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Module Delivered In	1 programme(s)
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Module Coordinator:	STEPHEN CASSIDY
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Module Author:	Seán Lacey
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Module Description:	This module will introduce students to the main principles relating to research integrity (RI) and ethics. It will demonstrate how RI and ethics are necessary to produce quality and trustworthy research. The module will also provide a foundational understanding of Open Science and how Open Research practices support RI and research quality.
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Learning Outcomes

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

LO1	Recognise that research ethics and research integrity are crucial elements of conducting good research.
LO2	Confidently apply good research practices at all stages of the research cycle.
LO3	Describe Open Science and how its practice aligns with research integrity.
LO4	Critically reflect on proven cases of research misconduct and questionable research practices (QRP) and recognise potential occurrences throughout the research cycle.
LO5	Apply strategies, in line with university and national policies, on how to respond to instances of QRPs and research misconduct.

Pre-requisite learning

Module Recommendations
This is prior learning (or a practical skill) that is strongly recommended before enrolment in this module. You may enrol in this module if you have not acquired the recommended learning but you will have considerable difficulty in passing (i.e. achieving the learning outcomes of) the module. While the prior learning is expressed as named MTU module(s) it also allows for learning (in another module or modules) which is equivalent to the learning specified in the named module(s).

No recommendations listed

Incompatible Modules
These are modules which have learning outcomes that are too similar to the learning outcomes of this module. You may not earn additional credit for the same learning and therefore you may not enrol in this module if you have successfully completed any modules in the incompatible list.

No incompatible modules listed

Co-requisite Modules

No Co-requisite modules listed

Requirements
This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed. You may not enrol on this module if you have not acquired the learning specified in this section.

No requirements listed

**CMOD9001: Fostering Research Integrity****Module Content & Assessment****Indicative Content**

Research Integrity
 Research integrity, local, national and international RI policy, researcher responsibility. Trust in science, reproducibility crisis, research misconduct, questionable research practices, conflict of interest, IP, research ethics, virtues, values.

Open Science
 Open Science principles, local, national and international OS policy, transparency, scholarly communications, authorship, publication cycle, Open Research practices, registered reports, OSF, Open Citations, Open Peer Review, Open Lab Books, PIDs, funder mandates.

Research Data Management
 Research data management planning, organisation, storage and preservation, Open Data practices. FAIR data principles, data repositories, metadata standards, funder mandates.

Assessment Breakdown	%
Course Work	100.00%

Course Work

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Practical/Skills Evaluation	Students will complete a Human Research Ethics Application form for a proposed research study.	1,2,5	25.0	Week 6
Practical/Skills Evaluation	Students will complete a Research Data Management Plan for a proposed research study.	2,3,5	25.0	Week 10
Reflective Journal	Following completion of Epigeum research integrity training, students will complete a reflective essay on the possible research ethics and research integrity issues associated with a proposed research study.	1,2,3,4,5	50.0	Sem End

No End of Module Formal Examination

Reassessment Requirement

Coursework Only
This module is reassessed solely on the basis of re-submitted coursework. There is no repeat written examination.

The institute reserves the right to alter the nature and timings of assessment



CMOD9001: Fostering Research Integrity

Module Workload

Workload: Full Time				
<i>WorkLoad Type</i>	<i>WorkLoad Description</i>	<i>Hours</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	Theory, concepts and case studies.	2.0	Every Second Week	1.00
Independent & Directed Learning (Non-contact)	Independent study	12.0	Every Second Week	6.00
Total Hours				14.00
Total Weekly Learner Workload				7.00
Total Weekly Contact Hours				1.00

This module has no Part Time workload.

Module Resources

Recommended Book Resources

- Committee on Toward an Open Science Enterprise Board on Research Data and Information Policy and Global Affairs 2018, *Open Science by Design: Realizing a Vision for 21st Century Research* The Academies of Sciences Engineering Medicine <https://www.nap.edu/read/25116/chapter/1>
- Committee on Responsible Science Committee on Science, Engineering, Medicine, and Public Policy Policy and Global Affairs 2017, *Fostering Integrity in Research*, The Academies of Sciences Engineering Medicine <https://www.nap.edu/read/21896/chapter/1>

Recommended Article/Paper Resources

- MTU 2023, *Research Integrity Policy* <https://www.mtu.ie/media/mtu-website/governance/policies-and-publications/academic-council-policies-and-regulations/research-innovation-and-postgraduate-study/Research-Integrity-Policy-V1.0App-AC-05052023.pdf>
- MTU 2022, *Human Research Ethics Policy* <https://www.mtu.ie/media/mtu-website/governance/policies-and-publications/academic-council-policies-and-regulations/research-innovation-and-postgraduate-study/Human-Research-Ethics-Policy-AC-app-030622.pdf>
- MTU 2022, *Research Data Management Policy* <https://www.mtu.ie/media/mtu-website/governance/policies-and-publications/academic-council-policies-and-regulations/research-innovation-and-postgraduate-study/Research-Data-Management-Policy.pdf>

Supplementary Article/Paper Resources

- All European Academies 2023, *European Code of Conduct for Research Integrity - Revised Edition*, 2023 <https://doi.org/10.26356/ECOC>
- MTU 2022, *Authorship Policy* <https://www.mtu.ie/media/mtu-website/governance/policies-and-publications/academic-council-policies-and-regulations/research-innovation-and-postgraduate-study/Authorship-Policy-App-AC-300922.pdf>
- MTU 2022, *Code of Good Practice in Research* <https://www.mtu.ie/media/mtu-website/governance/policies-and-publications/academic-council-policies-and-regulations/research-innovation-and-postgraduate-study/Code-of-Good-Practice-in-Research.pdf>
- MTU 2022, *Human Research Ethics Screening Checklist* <https://www.mtu.ie/media/mtu-website/governance/policies-and-publications/academic-council-policies-and-regulations/research-innovation-and-postgraduate-study/Human-Research-Ethics-Screening-Checklist-V1-Approved-170622.pdf>
- MTU 2022, *Open Access Policy* <https://www.mtu.ie/media/mtu-website/governance/policies-and-publications/academic-council-policies-and-regulations/research-innovation-and-postgraduate-study/Open-Access-Policy.pdf>
- MTU 2022, *Regulations for Postgraduate Research Study* <https://www.mtu.ie/media/mtu-website/governance/policies-and-publications/academic-council-policies-and-regulations/research-innovation-and-postgraduate-study/Regulations-for-Postgraduate-Research-Study-app-AC-030622.pdf>
- National Research Integrity Forum 2019, *National Policy Statement on Ensuring Research Integrity in Ireland*, Irish Universities Association, Dublin <https://www.iaa.ie/wp-content/uploads/2021/04/National-Policy-Statement-on-Ensuring-Research-Integrity-in-Ireland.pdf>
- National Open Research Forum 2019, *National Framework on the Transition to an Open Research Environment*, Dublin <https://doi.org/10.7486/DRI.0287dj04d>
- Organisation for Economic Co-operation and Development 2007, *Best Practices for Ensuring Scientific Integrity and Preventing Misconduct* <https://www.oecd.org/science/inno/40188303.pdf>
- Science Europe 2021, *Practical Guide to the International Alignment of Research Data Management - Extended Edition* <https://doi.org/10.5281/zenodo.4915862>
- Science Europe 2015, *Research Integrity: What it Means, Why it Is Important and How we Might Protect it* <https://doi.org/10.5281/zenodo.5060051>

- Wilkinson, M., Dumontier, M., Aalbersberg, I. et al 2016, *The FAIR Guiding Principles for scientific data management and stewardship*, Scientific Data, 3, 160018
<https://doi.org/10.1038/sdata.2016.18>

This module does not have any other resources

Module Delivered In

Programme Code	<i>Programme Title</i>
CR_HRDPR_9	Postgraduate Certificate in Research Development & Practice (Approved)