



Life and Death in Data: Plagues, Pestilence, and Pandemics

Module co-ordinators	Dr Máire Ní Leathlobhair, School of Genetics and Microbiology; Prof. Noel McCarthy, School of Medicine
What will you learn from this elective	The content of this elective ranges from epidemiology and microbiology to public health sciences, history and classical studies. This module will enable you to apply analytics strategies used across different disciplines in the sciences and humanities to understand and contextualize the abundance of data resulting from both the recent COVID 'infodemic' and past disease outbreaks; this will include historiographical approaches to interpreting historical sources, epidemiological analysis and inference, and genetic and evolutionary analyses. You will reflect on what can be learned from historical perspectives in addressing global public health crises today. You will have a chance to develop your statistical literacy and understanding of epidemiological metrics. Through interactive and interdisciplinary workshops and webinars, students will be led by lecturers and guest speakers in discussing past and present public health policies and interventions.
Student Workload	<ul style="list-style-type: none">• 25-30 contact hours (2 x 1-hour lectures per week plus tutorials, webinars, and workshops)• Self-directed study (50-60 hours)• Group and individual assessments (40 hours)• Total: 120-130 hours
Assessment Components	<ul style="list-style-type: none">• Individual MCQ and on-line written assessment after completion of elective (45%)• Small group work - social media content creation related to elective (45%)• Participation in workshops and tutorials (10%)
Indicative Reading List	<ul style="list-style-type: none">• Teaching Literary Responses to the Black Death During the COVID 19 Pandemic. Brendan O'Connell, AISHE-J (2020)• Pandemics Throughout History. Jocelyne Piret & Guy Boivin, Front. Microbiol. (2021)• Epidemic tracking and forecasting: Lessons learned from a tumultuous year. Roni Rosenfeld & Ryan J. Tibshirani, PNAS (2021)• Plague Image and Imagination from Medieval to Modern Times. C Lynteris, Springer (2021)



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	<ul style="list-style-type: none">• How old are bacterial pathogens? Achtman M. Proc. R. Soc. B (2016)• Hamnet by Maggie O'Farrell
Learning Outcomes	<p>On successful completion of this module, you should be able to:</p> <ol style="list-style-type: none">1. Describe the criteria that constitute epidemics, pandemics and outbreaks2. Understand and explain key epidemiological metrics relevant for understanding pandemic disease burden and spread3. Interpret health data visualizations and identify and communicate misrepresentation of data4. Discuss past and present social, political and cultural responses to pandemics5. Combine historical approaches with quantitative thinking in understanding infectious disease outbreaks