

Module Information

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| Module Code | Module Title | Semester | Mod. Credits |
| GEC1011/ GEH1043 | Microbes Which Changed Human History | 2 | 4 |

Module Description

The primary aim of the module is to introduce students to the nature of infectious diseases and their impact on human activities. At the end of the module, students will be able to understand the interactions between microorganisms and humans, and the position and role of humans in the living world.

Eligibility and requirements

Prerequisites (prior knowledge required): NIL

Corequisites: NIL

Precluded modules (if any): GEK1534, GEC1011, GEH1043

Instructional methods

The following instructional methods will be employed:

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|----------------------------------|-------------------------------------|
| 1) Lecture (11 sessions) | 4) Field trip (1 session) |
| 2) Blended Learning (2 sessions) | 5) Group Discussions (3 sessions) |
| 3) Laboratory (2 sessions) | 6) Group Presentations (4 sessions) |

Assessment modes

The following assessments will be employed:

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|-----------------------------|--------------------------------|
| 1) Participation = 11% | 4) Module Quiz = 4% |
| 2) CA = 25% | 5) Individual Assignment = 30% |
| 3) Group Presentation = 30% | |

Contact information for Module Coordinator and other instructors

Dr Ch'ng Jun-Hong
Office: MD4, Level 4
Phone number: 6516 3789
Email: micchn@nus.edu.sg

Course content and syllabus

Lectures:

- 1) History of microbiology (1 lecture)
- 2) Viral and bacterial plagues/epidemics (3 lectures)
- 3) Diseases that shaped Singapore's history (3 lectures)
- 4) Microbes shaping our individual and collective futures (2 lectures)
- 5) Student-selected topic (1 lecture)

Learning activities

The following learning activities will be employed to achieve the learning outcomes of knowledge, cognitive skills, generic skills and/or attributes development stated in the 'Intended Learning Outcomes' below:

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|-------------------------------------|---|
| 1) Interactive lectures | 5) Field trips & educational card games |
| 2) Group discussions | 6) Laboratory activities |
| 3) Presentation & writing workshops | 7) Essay Writing |

This module incorporates an assortment of instructional and learning activities that provide an exciting learning experience for students that are keen to learn more about how microbes have shaped human history. Activities are designed to engaged those without prior training in [micro]biology to bring the topics to life and show the relevance of microbes in not only our history but also everyday life.

Intended Learning Outcomes

By the end of the module, students will be able to:

1. List some notable microbes and describe their role in shaping history (diseases & benefits)
2. Compare how diseases are spread and how they have been/are being managed
3. Determine how specific microbes/diseases of interest have shaped our lives in the present and future

This module will provide the opportunities to develop the following cognitive skills, generic skills and attributes:

| Very Good Opportunities | Good Opportunities |
|--|---|
| 1) Verbal/Oral Communication 2) Interdisciplinary Thinking 3) Creative Thinking 4) Collaboration & Teamwork | 1) Written Communication 2) Analytical & Critical Thinking 3) Problem-solving & Decision-making |

Required and/or recommended readings

NIL

TIMETABLE FOR SEMESTER II, 2025/2026

GEH1043/GEC1011 – Microbes which Changed Human History

Module Coordinator(s): Dr Ch'ng Jun Hong

Email : micchn@nus.edu.sg :: Tel: 6516-3789

Lectures : Tuesdays and Fridays – 4pm to 6pm

Venue : MD4 L2 Seminar room

| | | LECTURE | LECTURE |
|------------------------------|-------|---|---|
| WK | MONTH | Tuesday – 4pm to 6pm | Friday – 4pm to 6pm |
| 1. | Jan | 13 Lecture1: History & Food (CJH) | 16 Lecture2: Black Death (PCW) |
| 2. | | 20 Lecture3: Tuberculosis & antimicrobial resistance (CJH) | 23 Lecture4: Student selected topic#1 Zombies/Prehistoric Microbes/IQ/Blue (CJH) #online anytime |
| 3. | | 27 Lecture5: Diarrhoea in SG (CJH) | 30 Assignment Briefing + Presentation Workshop#1 (CJH) *Pls block out 31Jan (Sat) 8am-2pm for St John's Island Field Trip!* |
| 4. | Feb | 03 Lecture6a: Viral Pandemics (CJH) | 06 Lecture6b: Viral Pandemics (CJH) |
| 5. | | 10 Lecture7: Malaria (CJH) | 13 Presentation workshop#2 (CJH) |
| 6. | | 17 CNY Day1 | 20 Lecture8: HIV (PCW) |
| RECESS WEEK: 21/2 – 1/3/25 | | | |
| 7. | Mar | 03 Lecture9: Microbiomes (CJH) | 06 Practical #1 @ MD4 Level4 LS9 (CJH & CCL) |
| 8. | | 10 Presentation Workshop#3 (CJH) | 13 Practical #2 @ MD4 Level4 LS9 (CJH & CCL) |
| 9. | | 17 Grp Ppt #1 (CJH) | 20 Grp Ppt #2 (CJH) |
| 10. | | 24 Grp Ppt #3 (CJH) | 27 Grp Ppt #4 (CJH) |
| 11. | Apr | 31 MCQ CA + Writing Clinic (CJH) | 03 GOOD FRIDAY |
| 12. | | 07 Make-up for SJI#1 (CJH) | 10 Lecture10: Student-Selected Topic#2 (CJH) #online anytime |
| 13. | | 14 Make-up for SJI#2 (CJH) Indv Assig due 14Apr 2359hrs | 17 Lecture11: Course Review (CJH) |
| READING WEEK: 18/4 – 24/4/26 | | | |
| No FE, 100% CA | | | |
| VACATION: 01/5 – 2/8/26 | | | |

Mode of Assessment:

Participation(11%) + GrpPpt(30%) + Quiz(4%) + CA(25%) + IndvAssig(30%)

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| Lecturers: Dr Chng Jun Hong (CJH) Dr Png Chin Wen (PCW) | Instructor: Ms Chan Chuu Ling (CCL) |
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