

MIH2202 Course Outline

Faculty/School: Yong Loo Lin School of Medicine

Department/Programme: Department of Microbiology & Immunology / Minor in Integrative Health

Course Details

Course code: MIH2202

Course title: The Landscape of Health: Evolving Spaces and Technology

Credits: 4 units/MCs

Max class size: 50

Course Description

This course will introduce the critical contributions of design and environment, and technological applications for healthcare innovations. Students will engage in various projects to critically identify gaps and solutions for real-life healthcare related issues. Key concepts and application exercises are arranged into topics including, (1) the role and application of design and technology in health, (2) role of environmental and human microbes in health, and the (3) changes in health during growth and aging. At the end of this module, students will be able to communicate and integrate information in an interdisciplinary manner to provide healthcare solutions for the community.

Eligibility and Requirements

Pre-Requisites: MIH1101 or MIH1102 or GEC1011/GEH1043 or LSM3228 or LSM3232

Concurrent Course Allowed*: MIH1101 or LSM3228 or LSM3232 or GEC1011/GEH1043

* Students must read the course concurrently in the same semester if no pre-requisite is fulfilled.

Students are also advised to check NUSMods if the course they wish to concurrently enroll is available in the given semester.

Course Learning Outcomes

1. Recognize the role of (a) design/environment and (b) application of technologies on health and wellbeing (preventive, diagnosis and interventional).
2. Demonstrate the role of physical space and technology on health through interpretation and analysis of relevant data, and communication via a short report/presentation.
3. Propose how cutting-edge advances in their respective disciplines influence health (via augmentation of physical spaces or use of technology) and formulate strategies to leverage on these advances to reap health benefits in the local/regional context.
4. Identify gaps and propose solutions to overcome challenges in built and technological design to support health in the future.
5. Exhibit ability to work comfortably and effectively in groups with other members from different backgrounds and to acknowledge values and potentials of other disciplines in propelling their own.

Course Schedule

Weeks 1-3: Understanding the foundational relationship between space, design and health. How are our homes, neighborhoods and hospitals designed to promote or limit health? What technologies have been incorporated which impact our wellbeing?

Weeks 4-6: Microbes: connecting us to our planet. How is the health of our planet, and the health of animals directly impacting our health? Is our obsession with being 'clean' doing us more harm than good? How are microbes able to impact so many facets of our healthy development?

Weeks 7-10: Designed for life, from cradle to grave (including CA on week 9). As we mature from infants to our golden years, how do our needs change and what design and technologies augment our lifestyles?

Weeks 10-13: Real world applications of design, technology and health integration (including student presentations on week 12). As we conclude the course, how do we envision the future of health in Singapore? What concrete steps can be implemented to improving health, or to mitigate risks associated with design and technology? What new challenges and opportunities are likely to arise?

Modes of Teaching

Includes lectures, group discussions, dialogues, case-based learning, and presentations. During group discussions, students will actively share their opinions and discuss the subject matter in relation to the various aspects of health in an interdisciplinary manner. Similarly for case-based learning, cases based on real life experiences and problems faced by individuals from different walks of the society will be used. This will provide a framework for students from different disciplines to work together for an in-depth examination of each case. They will be tasked to identify problems and proposed realistic solutions that incorporate the use of technology & environmental design to improve health.

Workload (weekly): Lecture (3hr), Tutorial (1hr), Fieldwork, Projects and Assignments (2hr), Preparatory Work (4hr)

Assessments (100% CA)

10%: Pre-Assignment Presentation

30%: CA

35%: Assignment Presentation

15%: Teammates Evaluation

10%: Reflection

No Final Exam

Lecturers

Dr Ch'ng Jun Hong (Dept. of Immunology & Microbiology, NUSmed) – Course Coordinator

Ms Chan Chuu Ling (Dept. of Immunology & Microbiology, NUSmed)

Dr Png Chin Wen (Dept. of Immunology & Microbiology, NUSmed)

Assoc. Prof Ruzica Bozovic Stamenovic (Department of Architecture, CDE)

Asst. Prof Zdravko Trivic (Department of Architecture, CDE)

Dr Boyd Anderson (Dept. of Computer Science, SOC)

TIMETABLE FOR SEMESTER I, 2024/2025 (v2024-07-09)**MIH2202 – The Landscape of Health: Evolving Spaces and Technology**

Course Coordinator: Ch'ng Jun Hong

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

Lectures : Tuesdays – 10am to 1pm

Venue : MD4 level 2 Seminar Room

Tutorials : Tuesdays – 1pm to 2pm

Venue : Online

		LECTURE	TUTORIAL
WK	MTH	Tuesday – 10am to 1pm	Tuesday – 1pm to 2pm
1.	Aug	13. L0: Course introduction and Pre-Assignment Briefing (CJH, CCL, PCW)	13. Tutorial#1 (CJH, CCL, PCW)
2.		20. Group Pre-Assignment Presentations (all lecturers)	20. Tutorial#2
3.		27. L1: Understanding the foundational relationship between Design and Health (RBS)	27. Tutorial#3
4.	Sept	3. L2: One Planet, One Health (CCL)	3. Tutorial#4
5.		10. L3: Microbes (1) - In Sickness (CJH & PCW)	10. Tutorial#5
6.		17. L4: Microbes (2) – and in Health (CJH)	17. Tutorial#6
		RECESS WEEK	
7.	Oct	1. L5: Designed to Heal (TZ)	1. Tutorial#7
8.		8. L6: Immunity: from Birth to Death (PCW, live on ZOOM)	8. Tutorial#8
9.		15. CA + Guest Lecture (CJH, CCL, PCW)	15. Tutorial#9
10.		22. L7: SOC lecture (RBA)	22. Tutorial#10
11.		29. Field Trip (CJH, CCL)	29. Tutorial#11
12.	Nov	5. Group Assignment Presentations (all lecturers)	5. Tutorial#12
13.		12. L8: Course Conclusion (CJH, CCL, PCW)	12. Tutorial#13
		READING WEEK: 18/11 – 24/11	
		EXAMINATION WEEK: 25/11 – 09/12	NO FE!
		VACATION: 10/12 – 14/01/2024	

Mode of Assessment (100% CA):

10%: Pre-Assignment Presentation (20Aug)

30%: CA (15Oct)

35%: Assignment Presentation (5Nov)

15%: Teammates Evaluation (10Nov)

10%: Reflection (17Nov)