Academic Year	2019	**Semester**	2
Course Code	HH4025		
Course Title	History of Disease: Human Evolution, Disease and Health		
Pre-requisites	None		
No of AUs	4		

Course Aims

The aim of the course is to provide students with a general overview of the basic themes and issues in the history of diseases and medical history.

This will be done with an emphasis on global epidemic diseases—such as leprosy in the 12th century, plague in the 15th century, and cholera in the 19th century—and how these have impacted human civilisations. The course will begin with an in-depth examination of why knowing disease history is important, which stretches from the archaeological evidence of our human fossil ancestors to the end of the early 20th century and the rise of current diseases in these last few decades.

This course also focuses on the history of diseases and their evolution along with human history, beginning when certain zoonosis pathogens changed to affect human evolution. Apart from the history of diseases, the course explores how humans managed their illnesses in the past, modern medicine today, and how we seek to improve in the future. Knowing human medical history will help us know how to prepare for the future, because how we fight diseases could have unintended consequences that encourage pathogens to evolve and mutate again.

Programmme Learning Objectives:

1) Collect and synthesize large quantities of historical, anthropological and archaeological evidence.
2) Develop "historical empathy" with regards to individuals and groups in the past.
3) Prepare for the future, specifically, the consequences of the overuse of drugs and emerging diseases shaped by humans throughout history

Intended Learning Outcomes (ILO)

By the end of this course, students would be able to:

1) Understand the importance of research on human diseases and its evolution.
2) Compare and contrast the major historical, anthropological and archaeological approaches and theories.
3) Collect and synthesize large quantities of historical, anthropological and archaeological evidence.
4) Develop how to use historical, anthropological, archaeological and biological data, along with the testing of hypotheses to study human health issues.
5) Articulate compelling, evidence-based, and well-reasoned arguments in written and oral form.
6) Present critical thoughts when studying the history of diseases and on how we treat diseases today.

7) Demonstrate an understanding of how to appropriately acknowledge and build upon the work of others.

Course Content

This course explores how disease has shaped the way humans have evolved, and also how diseases have evolved to exploit humans. After considering the different techniques available to investigate health in past populations, we discuss the biological and genetic impact of disease upon natural selection. The cultural consequences of ill health will also be explored, including the social and religious interpretation of why people became ill, coping strategies by past civilizations to live with diseases significant in their societies, and attempts to heal the sick.

List of key topics taught detailed below:

1. Reasons to study health in the past and how to study health in the past
2. Disease, warfare and migration
3. Early attempts to treat disease
4. Common diseases among early and modern Austronesians in East Asia, Southeast Asia and Oceania
5. The origins of human infectious disease
6. Human parasites, allergies and evolution
7. Health in human ancestors
8. Disease in early civilizations
9. Social consequences of disease
10. The future evolution of disease

Assessment (Continuous Assessment- non examinable module):

Component	Related Programme LO or Graduate Attributes	Weighting	Team/ Individual	Assessment Rubrics
1. Seminar Participation, Presentations and Discussion (Presentation time: 60 min; Q&A: 30 min)	1. Communicate effectively 2. Express their understanding and thoughts of the subjects	20%	Team	See appendix 2 and the Google Sheet
2. Individual Research Project Proposal* (1,000 words)	Apply knowledge of history of disease to the solution of emerging disease problems (It depends on the topic of the project).	20%	Individual	See appendix 1
3. Individual Research Project Progress Presentation* (Presentation time:15 min Q&A: 5 min)	Design a project to answer a hypothesis and provide methods to achieve the aims of the project	20%	Individual	See appendix 1
4. Individual Research Project- Major essay* (5,000-6,000 words)	Apply knowledge of history of disease to the solution of emerging disease problems (It depends on the topic of the project).	40%	Individual	See appendix 1
Total		100%		

**I will provide a list of topics where each of you are to pick a different topic (no overlap) and that will be your topic for the whole of the semester.*

Course Policies and Student Responsibilities

(1) General
Students are expected to complete all assigned pre-class readings and activities, attend all seminar classes punctually, and take all scheduled assignments by due dates. Students are expected to take responsibility by following up with course notes, assignments, and course-related announcements for seminar sessions. Students are expected to participate in all seminar discussions and activities.

(2) Absenteeism
The team-based activity of this course requires students to be in class to contribute to team work. In-class activities make up a significant portion of student course grade. Absence from class without a valid reason will affect student's overall course grade. Valid reasons include falling sick supported by a medical certificate and participation in NTU's approved activities supported by an excuse letter from the relevant bodies. There will be no make-up opportunities for in-class activities. If students miss a seminar session, students must inform their team members and instructor via email (hyyeh@ntu.edu.sg) prior to the start of the class.

(3) Penalties for late submission
There will be penalties for late submission of 10% per day unless there are approved medical or other certificated reasons explaining the delay. Students must ensure that the instructor is aware of these circumstances as soon as possible. Students failing to submit an assignment will be denied their credit points for this course. In exceptional circumstances extensions may be granted for individual students, but only for students who ask BEFORE the essay submission date.

(4) Plagiarism in writing research papers
It is important that all unacknowledged materials in students' essays are their own work. The University has strict rules relating to plagiarism that may result in disciplinary procedures. Remember that copying or using any part of another student's essay or written work also falls within the definition of plagiarism. Exact texts cited from other's works and placed in student's paper must be put within quotation marks. Otherwise, paraphrase. The sources of both quotations and paraphrasing have to be properly noted.

Academic Integrity

Good academic work depends on honesty and ethical behaviour. The quality of your work as a student relies on adhering to the principles of academic integrity and to the NTU Honour Code, a set of values shared by the whole university community. Truth, Trust and Justice are at the core of NTU's shared values.

As a student, it is important that you recognize your responsibilities in understanding and applying the principles of academic integrity in all the work you do at NTU. Not knowing what is involved in maintaining academic integrity does not excuse academic dishonesty. You need to actively equip yourself with strategies to avoid all forms of academic dishonesty, including plagiarism, academic fraud, collusion and cheating. If you are uncertain of the definitions of any of these terms, you should go to the academic integrity website for more information. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.

Course Instructors

Instructor	Office Location	Phone	Email
Ivy Hui-Yuan Yeh	05-27	90541179	Ivy.hyyeh@gmail.com (Please send assignments to this email address)

Planned Weekly Schedule

Week	Topic
1 (14 Jan 2019)	● **Introduction of the course**
2 (21 Jan 2019)	● **Lecture topic: Disease, warfare, and migration I**
3 (28 Jan 2019)	● **Lecture topic: Disease, warfare and migration II** ● **Lecture topic: Early attempts to treat disease**
	● **Endnote and ithenticate brief instruction**
	● **Seminar Presentations and Discussion *(Seminar presentation list, see Google Sheet)*** **(presenter: group 1, chair: group 2, discussants/asking questions: group 3)** ● **Consultation: Optional**
	Readings: Han K, Chen X. The archaeological evidence of trepanation in early China. Bulletin of the Indo-Pacific Prehistory Association, 2007, 27:22-27. Mitchell, P.D. 2015. Human parasites in medieval Europe: lifestyle, sanitation and medical treatment. Advances in Parasitology 90: 389-420. Moghaddam, N., Mailler-Burch, S., Kara, L., Kanz, F., Jackowski, C. and Lösch, S. 2015. Survival after trepanation—Early cranial surgery from Late Iron Age Switzerland. International Journal of Paleopathology 11: 56-65. Simon R. 2012. Medieval Leper Hospitals in England: An Archaeological Perspective 56: 203-233.
4 (4 Feb 2019)	● **Lecture topic: The Origin of Austronesians**
	● **Seminar Presentations and Discussion** **(presenter: group 2, chair: group 3, discussants/asking questions: group 4)** ● **Consultation: Optional**

	Readings: Bellwood, P., Fox, J.J. and Tryon, D.T. 2006. The Austronesians: historical and comparative perspectives. Canberra: ANU E Press, The Australian National University. [Chapter one] Diamond, J.M. 1988. Express train to Polynesia. Nature 336(6197): 307-308. Diamond, J.M. 2000. Taiwan's gift to the world. Nature 403: 709-710. Hung, H.C., Iizuka, Y., Bellwood, P., Nguyen, K.D., Bellina, B., Silapanth, P., Dizon, E., Santiago, R., Datan, I. and Manton, J.H. 2007. Ancient jades map 3,000 years of prehistoric exchange in Southeast Asia. Proceedings of the National Academy of Sciences of the United States of America 104: 19745-19750. Matsumura, H. and Hudson, M.J. 2005. Dental perspectives on the population history of Southeast Asia. American Journal of Physical Anthropology 127(2): 182-209. Matsumura, H., Oxenham, M.F., Dodo, Y., Domett, K., Thuy, N.K., Cuong, N.L., Dung, N.K., Huffer, D. and Yamagata, M. 2008. Morphometric affinity of the late Neolithic human remains from Man Bac, Ninh Binh Province, Vietnam: key skeletons with which to debate the 'two layer' hypothesis. Anthropological Science 116(2): 135-148.	
5 (11 Feb 2019)	● **Lecture topic: Common diseases among early and modern Austronesians in East Asia, Southeast Asia and Oceania**	
6 (18 Feb 2019)	● **Lecture topic: The early history of human infectious disease** ● **Seminar Presentations and Discussion** **(presenter: group 3, chair: group 4, discussants/asking questions: group 5)** ● **Consultation: Optional**	
	Readings: Anastasiou, E., Lorentz, K.O., Stein, G.J. and Mitchell, P.D. 2014. Prehistoric schistosomiasis parasite found in the Middle East. The Lancet Infectious Diseases 14: 553-554. Diamond, G. 1997. Guns, Germs, and Steel: The Fates of Human Societies. New York : W.W. Norton & Co. [Part three: From Food to Guns, Germs and Steel- chapter 11: Lethal Gift of Livestock, Pages: 195-214] Kass, E.H. 1987. A brief perspective on the early history of American infectious disease epidemiology. The Yale Journal of Biology and Medicine 60(4): 341-348. Roberts CA, Alves Cardoso F,Bernofsky K, Henderson C, Jakob T, Plomp K, Ponce P, Sharman	

	J ,Spencer R. 2012. Palaeopathology : Studying The Origin, Evolution and Frequency of Disease in Human Remains from Archaeological Sites. Developed under the Auspices of the UNESCO, Eolss Publishers.	
7 (25 Feb 2019)	• **Lecture topic: Human parasites, allergies and evolution**	
	• **Seminar Presentations and Discussion** **(presenter: group 4, chair: group 5, discussants/asking questions: group 6)** • **Consultation: Optional**	
	Readings: Cohen, S.G. 1992.Asthma in antiquity: the Ebers Papyrus. Allergy Proc. 13 (4):147-154 Cox, F.E.G. 2002. History of Human Parasitology. Clinical Microbiology Reviews 15: 595-612. Mitchell, P.D. 2013. The origins of human parasites: exploring the evidence for endoparasitism throughout human evolution. International Journal of Paleopathology 3: 191-98. Alm, J.S., Swartz, J., Lilja, G., Scheynius, A. and Pershagen, G. Atopy in children of families with an anthroposophic lifestyle. The Lancet 353(9163): 1485-1488.	
4 March 2018 Recess week		
8 (11 Mar 2019)	• **Lecture topic I: Diseases, Diets and Migrations in human ancestors** • **Lecture topic II: Huamn Evolutionary History**	
	• **Seminar Presentations and Discussion** **(presenter: group 5, chair: group 6, discussants/asking questions: group 7)**	
	• **Supervision and Consultations for Individual Research Project- session 1** *(slots to be created)*	

	Readings: Cortés-Sánchez, M., Morales-Muñiz, A., Simón-Vallejo, M.D., Lozano-Francisco, M.C., Vera-Peláez, J.L., Finlayson, C., Rodríguez-Vidal, J., Delgado-Huertas, A., Jiménez-Espejo, F.J., Martínez-Ruiz, F., Martínez-Aguirre, M.A., Pascual-Granged, A.J., Bergadà-Zapata, M.M., Gibaja-Bao, J.F., Riquelme-Cantal, J.A., López-Sáez, J.A., Rodrigo-Gámiz, M., Sakai, S., Sugisaki, S., Finlayson, G., Fa, D.A. and Bicho, N.F. 2011. Earliest Known Use of Marine Resources by Neanderthals. PLOS ONE 6(9): e24026. Leles, D., Reinhard, K., Fugassa, M., Ferreira, L.F., Iniguez, A.M. and Araujo, A. 2010. A parasitological paradox: why is ascarid infection so rare in the prehistoric Americas? Journal of Archaeological Science 37: 1510-1520. Le Bailly, M. and Bouchet, F. 2013. Diphyllobothrium in the past: Review and new records. International Journal of Paleopathology 3: 182-187. Kappelman, J., Alçiçek, M.C., Kazancı, N., Schultz, M., zkul, M. and Şen, Ş. 2008. First Homo erectus from Turkey and implications for migrations into temperate Eurasia. American Journal of Physical Anthropology 135: 110-116.	
9 (18 Mar 2019)	● **Lecture topic I: Diseases in early civilization** ● **Lecture topic II: Human sacrifice and head-hunting in human societies**	
	● **Seminar Presentations and Discussion** **(presenter: group 6, chair: group 7, discussants/asking questions: group 8)**	
	● **Supervision and Consultations for Individual Research Project- session 2** *(slots to be created)*	
	Readings: Charlotte, Roberts. 2013. ''The Bioarchaeology of Health and Well-being'', in The Oxford Handbook of the Archaeology of Death and Burial. Page: 1-26. Yeh, H.-Y. and Mitchell, P.D. 2016. Ancient Human Parasites in Ethnic Chinese Populations. The Korean Journal of Parasitology 54(5): 565-572. Jacob, T. 1972. The Problem of Head-Hunting and Brain-Eating among Pleistocene Men in Indonesia. Archaeology & Physical Anthropology in Oceania 7(2): 81-91. Sheppard, P.J., Walter, R., Nagaoka, T. and Nagaoka, T. 2000. THE ARCHAEOLOGY OF HEAD-HUNTING IN ROVIANA LAGOON, NEW GEORGIA. The Journal of the Polynesian Society 109(1): 9-37.	
10 (25 Mar 2019)	● **Lecture topic: Social and economic perspectives on health and disease**	

	● **Seminar Presentations and Discussion** **(presenter: group 7, chair: group 8, discussants/asking questions: group 1)**	
	● **Activity: Mold & Cast Fossils -session 1**	
	Readings: Armelagos, G.J., Brown, P.J. and Turner, B. 2005. Evolutionary, historical and political economic perspectives on health and disease. Social Science and Medicine 61: 755-765. Hanson, M. 2010. "Conceptual Blind Spots, Media Blindfolds: The Case of SARS and Traditional Chinese Medicine" in Angela Ki Che Leung and Charlotte Furth (eds.) Health and Hygiene in Chinese East Asia: Policies and Publics in the Long Twentieth Century. Durham, NC: Duke University Press. Fang, X. 2013 "The Global Cholera Pandemic Reaches Chinese Villages: Population Mobility, Political Control, and Economic Incentives in Epidemic Prevention, 1962-1964," Modern Asian Studies. Fan, K. 2012. Schistosomiasis Control and Snail Elimination in China. American Journal of Public Health, 102(12), 2231–2232.	
11 (1 April 2019)	● **Lecturer topic: The future evolution of disease**	
	● **Seminar Presentations and Discussion** **(presenter: group 8, chair: group 1, discussants/asking questions: group 2)**	
	● **Activity: Mold & Cast Fossils -session 2**	
	Readings: Kohrt, B.A., Mendenhall, E. and Brown, P.J. How anthropological theory and methods can advance global mental health. The Lancet Psychiatry 3(5): 396-398. Eaton, S.B., Strassman, B.I., Nesse, R.M., Neel, J.V., Ewald, P.W., Williams, G.C., Weder, A.B., Eaton Iii, S.B., Lindeberg, S., Konner, M.J., Mysterud, I. and Cordain, L. 2002. Evolutionary Health Promotion. Preventive Medicine 34: 109-118. Dobson, A. P. & Carper, E. R. Infectious diseases and human population history. Bioscience 46, 115–126 (1996). Spellberg, B., Bartlett , J.G. and Gilbert , D.N. 2014. The Future of Antibiotics and Resistance. New England Journal of Medicine 368: 299-302.	

12 (8 April 2019)	● **Individual Research Project Progress Presentation -session 1**	
13 (15 April 2019)	● **Individual Research Project Progress Presentation -session 2**	
	Major Essay (5,000-6,000 words) Submission deadline: 11:00 PM, 7 May 2018	
22 April 2018	Revision and Examination	