



<b>Academic Year</b>	2023	<b>Semester</b>	2
<b>Course Code</b>	HH4025		
<b>Course Title</b>	History of Disease: Human Evolution, Disease and Health		
<b>Pre-requisites</b>	None		
<b>No of AUs</b>	4		
<b>Classroom</b>	LHS-TR+29		
<b>Time</b>	Monday, 1530-1920		

**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 those 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.

**Programme 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

# Subject to change

**Assessment (Continuous Assessment- non examinable module):**

Component	Related Programme LO or Graduate Attributes	Weighting	Team/ Individual	Assessment Rubrics
<p><b>1. Seminar Participation, Presentations and Discussion<sup>1</sup></b>                      --Presentation time: 20 min; Q&amp;A: 5 min                      --Presentation style: narrative                      --Each student has to submit at least 3 responses with a minimum of 100 words this semester                      --Google sheet (Groups and members):</p>	<p>1. Communicate effectively                      2. Express their understanding and thoughts of the subjects</p>	20%	Team	See appendix 2 and the Google Sheet
<p><b>2. Individual Research Project Proposal<sup>2</sup></b> (1,000 words)                      -- Submit as a Word document (*.doc) and name file as follows: firstName_proposal                      -- Individual Research Topics (to be announced on 27 Jan via Google shared document)                      --Deadline: 11 April</p>	<p>Apply knowledge of history of disease to the solution of emerging disease problems (It depends on the topic of the project).</p>	20%	Individual	See appendix 1
<p><b>3. Individual Research Project Progress Presentation<sup>2</sup></b>                      --Presentation time:10-15 min; Q&amp;A: 5 min</p>	<p>Design a project to answer a hypothesis and provide methods to achieve the aims of the project</p>	20%	Individual	See appendix 1
<p><b>4. Individual Research Project- Major essay<sup>2</sup></b>                      -- Together with item 2, should be 2,000 words                      -- Secondary sources are fine                      -- Submit as a Word document (*.doc) and name file as follows: firstName_essay)                      --Deadline: 1 May</p>	<p>Apply knowledge of history of disease to the solution of emerging disease problems (It depends on the topic of the project).</p>	30%	Individual	See appendix 1
<p><b>5. Video of archaeological/historical sites in Singapore</b>                      -- The video will have to be uploaded on Youtube                      -- The rubrics will be 50% from the public's likeness and 50% from instructor's side (knowledge level of the archaeology, video quality, creativity)                      -- Length: 20 minutes(2 groups)                      -- Deadline: 16 April</p>	<p>Present archaeological/historical ideas and evidence to specialist and non-specialist audiences in a variety of media.</p>	10%	Team	
<b>Total</b>		100%		

**1. Seminar Participation, Presentations and Discussion:**

- Each group will get the chance to present, chair (leading discussion) and be discussants (asking questions) in turn. This rotation will happen once over the whole semester.
- Each presentation time will be: 60 mins, followed by 30 mins for questions (Q&A).
- The presentation and discussion will be based on the readings assigned by the instructor weekly.

2. Instructor will provide a list of topics where each of you are to pick a topic and that will be your topic for the whole of the semester. No limit on the number of students who can choose a certain topic.

**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	Email
Ivy Hui-Yuan Yeh	05-27 HSS (office) 03-01 HSS (lab)	<a href="mailto:ivy.hyyeh@gmail.com">ivy.hyyeh@gmail.com</a> (Please send assignments to this email address)

**Planned Weekly Schedule**

Week	Topic
1	<ul style="list-style-type: none"> <li>● Introduction of the course</li> <li>● Please sign up on Google Sheets</li> </ul>
2	<ul style="list-style-type: none"> <li>● Lecture topic: Disease, warfare, and migration I</li> </ul>
	<ul style="list-style-type: none"> <li>● Seminar Presentations and Discussion (<i>Seminar presentation list, see Google Sheet</i>) (presenter: group 1, chair: group 2, discussants/asking questions: group 3)</li> </ul>
3	<p>Readings:</p> <p>Han K, Chen X. The archaeological evidence of trepanation in early China. <i>Bulletin of the Indo-Pacific Prehistory Association</i>, 2007, 27:22-27.</p> <p>Mitchell, JD. 2015. Human parasites in medieval Europe: lifestyle, sanitation and medical treatment. <i>Advances in Parasitology</i> 90: 189-421.</p> <p>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. <i>International Journal of Paleopathology</i> 11: 56-65.</p> <p>Simon R. 2012. Medieval Leper Hospitals in England: An Archaeological Perspective 56: 203-233.</p>
	<ul style="list-style-type: none"> <li>● Lecture topic: The early history of human infectious disease</li> </ul>
4	<ul style="list-style-type: none"> <li>● Lecture topic: The Origin of Austronesians</li> <li>● Lecture topic: Common diseases among early and modern Austronesians in East Asia, Southeast Asia and Oceania</li> </ul>

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5	<ul style="list-style-type: none"> <li>● <b>Lecture topic: Disease, warfare and migration II</b></li> </ul>
6	<ul style="list-style-type: none"> <li>● <b>Seminar Presentations and Discussion</b> (presenter: group 2, chair: group 3, discussants/asking questions: group 4)</li> <li>● <b>Seminar Presentations and Discussion</b> (presenter: group 3, chair: group 4, discussants/asking questions: group 5)</li> <li>●</li> </ul>
7	<p>Readings (1):</p> <p>Anastasiou, E., Lorentz, K.O., Stein, G.J. and Mitchell, P.D. 2014. Prehistoric schistosomiasis parasite found in the Middle East. <i>The Lancet Infectious Diseases</i> 14: 553-554.</p> <p>Diamond, G. 1997. <i>Guns, Germs, and Steel: The Fates of Human Societies</i>. New York : W.W. Norton &amp; Co. [Part three: From Food to Guns, Germs and Steel- chapter 11: Lethal Gift of Livestock, Pages: 195-214]</p> <p>Kass, E.H. 1987. A brief perspective on the early history of American infectious disease epidemiology. <i>The Yale Journal of Biology and Medicine</i> 60(4): 341-348.</p> <p>Roberts CA, Alves Cardoso F, Bernofsky K, Henderson C, Jakob T, Plomp K, Ponce P, Shuman J, Spencer P. 2012. <i>Palaeopathology : Studying the Origin, Evolution and Frequency of Disease in Human Remains from Archaeological Sites</i>. Developed under the Auspices of the UNESCO, Eoiss Publishers.</p> <hr/> <p>Readings (2):</p> <p>Bellwood, P., Fox, J.J. and Tryon, D.T. 2006. <i>The Austronesians: historical and comparative perspectives</i>. Canberra: ANU E Press, The Australian National University. [Chapter one]</p> <p>Diamond, J.M. 1988. Express train to Polynesia. <i>Nature</i> 336(6197): 307-308.</p> <p>Diamond, J.M. 2000. Taiwan's gift to the world. <i>Nature</i> 403: 709-710.</p> <p>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. <i>Proceedings of the National Academy of Sciences of the United States of America</i> 104: 19745-19750.</p> <p>Matsumura, H. and Hudson, M.J. 2005. Dental perspectives on the population history of Southeast Asia. <i>American Journal of Physical Anthropology</i> 127(2): 182-209.</p> <p>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</p>

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remains from Man Bac, Ninh Binh Province, Vietnam: key skeletons with which to debate the 'two layer' hypothesis. *Anthropological Science* 116(2): 135-148.

Readings (1):

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.

Readings (2):

Beyond, P., Fox, J.J. and Thron, D.: 2006. *The Australo-Melanesians: 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.

- **Lecture topic: Human parasites, allergies and evolution**

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	<ul style="list-style-type: none"> <li><b>Seminar Presentations and Discussion</b> (presenter: group 4, chair: group 5, discussants/asking questions: group 6)</li> </ul>
<b>Recess week</b>	
8	<p>Readings:</p> <p>Cohen, S.G. 1992. Asthma in antiquity: the Ebers Papyrus. <i>Allergy Proc.</i> 13 (4):147-154</p> <p>Cox, F.E.G. 2002. History of Human Parasitology. <i>Clinical Microbiology Reviews</i> 15: 595-612.</p> <p>Mitchell, P.D. 2013. The origins of human parasites: exploring the evidence for endoparasitism throughout human evolution. <i>International Journal of Paleopathology</i> 3: 191-98.</p> <p>Almond S., Swartz J., Lili G., Scheybal A. and Pershagen G. Atopy in children of families with an archaic pre-urban lifestyle. <i>The Lancet</i> 353 (9163): 1485-1489.</p> <hr/> <ul style="list-style-type: none"> <li><b>Lecture topic I: Diseases, Diets and Migrations in human ancestors</b></li> <li><b>Lecture topic II: Human Evolutionary History</b></li> </ul> <hr/> <ul style="list-style-type: none"> <li><b>Seminar Presentations and Discussion</b> (presenter: group 5, chair: group 6, discussants/asking questions: group 1)</li> </ul>

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	<p>Readings:</p> <p>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.</p> <p>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.</p> <p>Le Bailly, M. and Bouchet, F. 2013. Diphyllbothrium in the past: Review and new records. International Journal of Paleopathology 3: 182-187.</p> <p>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.</p>	
9	<ul style="list-style-type: none"> <li>• <b>Lecture topic I: Diseases in early civilization</b></li> <li>• <b>Lecture topic II: Human sacrifice and head-hunting in human societies</b></li> <li>• <b>Lecture topic III: Social and economic perspectives on health and disease</b></li> <li>• <b>Seminar Presentations and Discussion</b> (presenter: group 6, chair: group 2, discussants/asking questions: group 3)</li> </ul> <p>Readings:</p> <p>Charlotte, Roberts. 2013. "The Bioarchaeology of Health and Well-being", in The Oxford Handbook of the Archaeology of Death and Burial. Page: 1-26.</p> <p>Yeh, H.-Y. and Mitchell, P.D. 2016. Ancient Human Parasites in Ethnic Chinese Populations. The Korean Journal of Parasitology 54(5): 565-572.</p> <p>Jacob, T. 1972. The Problem of Head-Hunting and Brain-Eating among Pleistocene Men in Indonesia. Archaeology &amp; Physical Anthropology in Oceania 7(2): 81-91.</p> <p>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.</p>	

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10	<ul style="list-style-type: none"><li>• Lecture topic: Early attempts to treat disease</li></ul>
11	<ul style="list-style-type: none"><li>• <b>Individual Research Project Progress Presentation</b></li><li>• <b>Consultation session: slots to be created (each slot is 20 mins)</b></li></ul>
12	<ul style="list-style-type: none"><li>• <b>Individual Research Project Progress Presentation</b></li><li>• <b>Consultation session: slots to be created (each slot is 20 mins)</b></li></ul>
13	Revision

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## Appendix 1: Assessment Criteria for Essays and Research Projects

	A-range	B-range	C-range	D and F
<b>1) Development of Research topic</b>	Bold and original, addresses assignment prompt, focused	Somewhat original, addresses assignment prompt, focused	Unoriginal but fairly well thought out, addresses assignment prompt, lacking in focus	Unoriginal and poorly thought out, may not address assignment prompt, and no clear focus
<b>2) Knowledge and understanding</b>	Outstanding and error-free grasp of relevant historical, archaeological and anthropological processes	Very good grasp of relevant historical, archaeological and anthropological processes	Significant gaps in knowledge of relevant historical, archaeological and anthropological processes	Unacceptable level of knowledge of relevant historical, archaeological and anthropological processes
<b>3) Formulation of historical argument</b>	Original contribution to knowledge	Intelligent and showing some independence	Descriptive rather than analytical	Unsupported assertions and much confusion; no discernable argument
<b>4) Collection and synthesis of historical evidence</b>	Exceeding assignment requirements; untapped historical, archaeological and anthropological sources located; novel use of sources	Comprehensive; draws on underutilized historical, archaeological and anthropological sources	Draws on relevant historical, archaeological and anthropological sources; may miss key material	Draws on few relevant historical, archaeological and anthropological sources; omits key material
<b>5) Analysis and close reading of primary sources</b>	Insightful analysis with imagination and rigour	Persuasive analysis of the texts	Satisfactory analysis with some errors	Almost entirely absent or irrelevant
<b>6) Analysis and interpretation of secondary sources</b>	Detailed knowledge of the field and major historical, archaeological and anthropological approaches and theories	Good knowledge of the field including some historical, archaeological and anthropological approaches and theories; attempts to locate a gap in the historiography	Some knowledge of the field and some mention of major historical, archaeological and anthropological approaches and theories	Knowledge of major historical, archaeological and anthropological approaches and theories almost entirely or completely absent
<b>7) Articulation of well-reasoned argument</b>	Fully coherent, developed, and signposted throughout	Clear and coherent with fluent development	Lacking coherence but some clarity	Disjointed with much repetition or almost wholly incoherent and without structure
<b>8) Grammar and spelling</b>	No errors	Some minor typographical errors and /or lapses in grammar	Passable grammar and spelling	Very poor grammar and spelling
<b>9) Style and expression</b>	Exceeds expectations of academic and professional writing or speaking	Meets expectations of academic and professional writing or speaking	Satisfactorily meets expectations	Inappropriate style of writing or speaking
<b>10) Referencing and bibliography</b>	Conforms fully to style required by course instructor	Largely conforms to style required by course instructor	Partly conforms to style required by course instructor	Little attempt to conform to style required by course instructor

<b>11) Presentation in various media</b>	Exceptionally clear and well presented material	Clear and well presented, showing a good grasp of the topic	Lacks sufficient clarity, only covering some relevant points	Lacks clarity and contains little of relevance to the topic
<b>12) Visual aids</b>	Compelling and interactive use of visual aids	Clear and coherent use of visual aids	Limited use of visual aids or unclear visual aids	Irrelevant or absent use of visual aids
<b>13) Teamwork</b>	Evidence of strong collaboration and strong group synergy	Evidence of good collaboration and some group synergy	Evidence of satisfactory collaborative efforts	Evidence of very weak collaboration or no collaboration involved
<b>14) Historical empathy</b>	Work shows novel insight based on clear historical empathy	Work shows very good evidence of historical empathy	Work shows satisfactory evidence of historical empathy	No evidence of historical empathy leading to incorrect interpretation of sources and/or work is wholly presentist in approach
<b>15) Professional, ethical, and moral practices of historians</b>	Work shows full attention to norms and standards of historical, archaeological and anthropological practice	Work shows clear attention to norms and standards of historical, archaeological and anthropological practice	Work shows no awareness of the norms and standards of historical, archaeological and anthropological practice	Work actively violates norms and standards of historical, archaeological and anthropological practice

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**Appendix 2: Assessment Criteria for Seminar and Team-based Participation**

Types	Rubrics	
<b>Seminar and Team-based Participation</b>	<b>A-range</b>	Student initiates contributions more than once in each seminar, shows enthusiasm, and joins the discussion proactively. Student listens attentively when others present materials and perspectives. Student's comments are insightful and constructive; and balanced between general impressions and opinions, and specific and thoughtful criticisms or contributions.
	<b>B-range</b>	Student initiates contribution once in each seminar and proactively engages the discussion. Comments are mostly insightful and constructive. Occasionally comments are too general or not relevant to the discussion. Student is mostly attentive when others present ideas. Occasionally needs encouragement or reminder from instructor to focus comment.
	<b>C-range</b>	Student engages the discussion but less proactive. Comments are not always relevant to the discussion.
	<b>D and F-range</b>	Student does not show any enthusiasm toward the seminar and is too quiet during the discussion.

**Subject to change**