

<b>DEREE COLLEGE SYLLABUS FOR:</b>		<b>US CREDITS: 3/0/3</b>
<b>HSE 2210 LE The White Rider: The Nature and Character of Infectious Disease in Society</b>		
Honors Seminar (Spring 2017)		
<b>PREREQUISITES:</b>	WP 1010 Introduction to Academic Writing WP 1111 Integrated Academic Writing and Ethics	
<b>CATALOG DESCRIPTION:</b>	An interdisciplinary, thought-provoking and integrative discussion on the topic of Infectious Disease. The course focuses on the biological basis of infection and the various pathogens that cause disease, as well as its socio-political aspects and how infectious disease has been a major driving force of historic events through epidemics that have shaped the world as we know it today. Attention will be given to the development of various strategies (both pseudoscientific and scientific) for combating disease from a joint biological and ethical perspective.	
<b>RATIONALE:</b>	This seminar introduces students to the microbiology of infectious disease, as well as to the socio-cultural and ethical ramifications of epidemics. Through a discussion of the mechanisms that lead to pathogenesis, students are able to recognise, assess and conceptually appreciate the dangers imposed upon society by the second leading cause of death worldwide and the foremost leading cause of death from a historical perspective. The course focuses on epidemics that have shaped major global events: the plague of Athens during the Peloponnesian wars, the Black Death that claimed the lives of a third of the European continent in the Middle Ages, the European-introduced smallpox epidemic that decimated Native Americans during colonization, and more recently HIV. Discussions will deal with the biology of Infection from the molecular to the population level as well as the approaches (traditional and innovative) to restrict its spread and to reverse its effects. Furthermore, through case reports and studies concepts as biological warfare, the Red Queen Hypothesis and herd immunity will be examined.	
<b>LEARNING OUTCOMES:</b>	As a result of taking this course, students should be able to:  1. Demonstrate understanding of basic human and microbial biology from the cellular to the populations level and the mechanisms of interaction between the two that lead down the pathway of disease or recovery;  2. Analyze the process of infection and its spread, through evolution pathogenesis, disease progression, immunity, medical intervention and social policy;  3. Evaluate the role of I.D. in shaping global social and political structures, as well as mindsets and value systems in different cultures;  4. Examine the ways in which historical experiences of infectious disease have given rise to conceptions of identity and conditions of inclusion/exclusion;	

	5. Critically discuss ethical issues that arise from the response to and the prevention of infectious disease.
<b>METHOD OF TEACHING AND LEARNING:</b>	<p>In congruence with the teaching and learning strategy of the college, the following tools are used:</p> <ul style="list-style-type: none"> <li>• Interactive learning through workshop-based modelling and activities, extensive class discussion and problem-solving;</li> <li>• Case-studies that facilitate investigative and critical thinking that distinguish between causality and correlation.</li> <li>• Student presentations of learning material to encourage involvement in the learning process;</li> <li>• Extensive instructor feedback on assignments and activities;</li> <li>• Individualized assistance during office hours for further discussion of lecture material, additional reading, and assignments;</li> <li>• Additional print and audiovisual educational material posted on the Blackboard course template;</li> <li>• Other relevant educational material placed on reserve in the library.</li> </ul>
<b>ASSESSMENT:</b>	<p><b>Critical Essay 40%</b> One critical essay (1,500-2000 words) dealing with a different aspect of the course subject. The essay needs to display a firm grasp of the topic at hand, of the issues discussed in the course as a whole, as well as of the relevant bibliography (<b>use of at least 3-5 scholarly sources</b>).</p> <p><b>Creative Project 40%</b> Students will deploy a creative medium of their choice to apply their insights on concepts and ideas explored in the course. The creative project includes <b>a 500-word self-reflective essay</b> (which articulates the concepts that inform the creative project and relates them clearly to the content of the course), as well as <b>an oral presentation</b> of the creative project.</p> <p><b>Participation 20%</b> Each student will be evaluated according to his/her contribution in the class, the preparation of the material and his/her critical ability. Furthermore, each student will be assessed in regards to his/her participation in group activities and discussions that will arise throughout the course. Progress will be monitored by multiple choice quizzes taken online or in class.</p> <p><b>The Critical Essay</b> tests Learning Outcomes 1, 2 and 5. <b>The Creative Project</b> tests Learning Outcome 3 and 4.</p>
<b>REQUIRED READING:</b>	<p>L.N. Maegner. <i>A History of Infectious Diseases and the Microbial World</i> (Healing Society: Disease, Medicine, and History), ISBN 0275995046</p> <p>Nester, Anderson and Roberts Jr. <i>Microbiology: A Human Perspective</i> 8<sup>th</sup> Edition, MacGraw Hill, ISBN 0073522597</p>

<p><b>RECOMMENDED READING:</b></p>	<p>Barras V. and Greub G., <i>History of Biological warfare and terrorism</i>, Clin Microbiol Infect 2014; 20: 497–502.</p> <p>“Infectious Diseases and Arts: Pierre Vidal, Myrtille Tibayrenc, and Jean-Paul Gonzalez,” <i>Encyclopedia of Infectious Diseases</i>, online.</p> <p>Hussain et. Al. <i>Vaccines Through Centuries: Major Cornerstones of Global Health</i>, Front. Public Health 2015 3:269.</p> <p>Saunders-Hastings P.R. and Krewski D. <i>Reviewing the History of Pandemic Influenza: Understanding Patterns of Emergence and Transmission</i>, Pathogens 2016, 5, 66;</p>
<p><b>COMMUNICATION REQUIREMENTS:</b></p>	<p>Written reports in Word, using proper English. Knowledge of Excel and PowerPoint an advantage, as they may be required in either the report-writing or oral presentation phase. Oral presentation using proper English.</p>
<p><b>SOFTWARE REQUIREMENTS:</b></p>	<p>Word; Excel &amp; PowerPoint recommended.</p>
<p><b>WWW RESOURCES:</b></p>	<p>The course will use a number of materials via the internet, which will be available to the students via the Blackboard template.</p> <p>Students will be encouraged to use the internet to explore online “games” simulating epidemics as well as numerous documentaries and films focusing on infectious disease and its effects.</p>
<p><b>INDICATIVE CONTENT:</b></p>	<ol style="list-style-type: none"> <li>1. An Introduction to Infectious Disease</li> <li>2. Biological Basis of Infection <ul style="list-style-type: none"> <li>• The Cell</li> <li>• Bacteria</li> <li>• Viruses</li> <li>• Fungi</li> <li>• Protozoa</li> </ul> </li> <li>3. Host physiology and Anatomy <ul style="list-style-type: none"> <li>• Immune System</li> <li>• Microbial Subversion</li> <li>• Host Defenses</li> </ul> </li> <li>4. Theories and Ethics of Infection <ul style="list-style-type: none"> <li>• The Miasma theory</li> <li>• The Germ Theory of Disease</li> <li>• Biological Warfare</li> </ul> </li> <li>5. Politics and History of Infection</li> </ol>

	<ul style="list-style-type: none"><li>• Plagues</li><li>• Smallpox Colonization</li><li>• The Syphilis Exchange</li><li>• HIV</li></ul> <ol style="list-style-type: none"><li>6. Representations of Infection (films, artefacts, literary works)</li><li>7. The Art and Science of Disease Prevention<ul style="list-style-type: none"><li>• Vaccination</li><li>• Public health</li><li>• Sanitation</li></ul></li><li>8. Themes in Evolution<ul style="list-style-type: none"><li>• The Red Queen Hypothesis</li></ul></li></ol>
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