

<b>DEREE COLLEGE SYLLABUS FOR: BI 3215 ENVIRONMENTAL HEALTH</b>	
<b>UK LEVEL: 5</b> <b>UK CREDITS:15</b> <b>US Credits: 3/0/3</b>	
(Updated Fall 2022)	
<b>PREREQUISITES:</b>	BI 1000 Introduction to Biology I or BI 1006 Human Biology BI 1101 Introduction to Biology II or BI 1007 Environmental Ecology
<b>CATALOG DESCRIPTION:</b>	This course examines health issues, the scientific understanding of their causes and possible future approaches to control major environmental health problems in industrialized and developing countries.
<b>RATIONALE:</b>	This course explores the relationship of people to their environment -- how it affects their physical well-being, as well as what they can do to protect and enhance their health, and to influence the quality of the environment. It is a survey course intended to give students an understanding of how environmental factors impact the health of people and the community, and of the efforts made to prevent or minimize the effects of negative impacts. The course is designed to acquaint the student with the scientific and technical foundations of the field, and examines both the practice of environmental health and the problems which are addressed by the practitioners in this career discipline. Emphasis is on providing a general understanding of how environmental factors are involved in the transmission of communicable diseases and on some of the health hazards resulting from exposure to chemical and physical materials in our environment. The course is addressed to Environmental Studies majors and to any other student who wishes to learn about the impact of the environment on human health.
<b>LEARNING OUTCOMES:</b>	<p>As a result of taking this course, the student should be able to:</p> <ol style="list-style-type: none"> <li>1. Define the major sources and types of environmental agents and discuss the transport and fate of these agents in the environment.</li> <li>2. Identify the carriers or vectors that promote the transfer of these agents from the environment to the human and describe how these agents interact with biological systems, and the mechanisms by which they exert adverse effects over health.</li> <li>3. Explain and use models for prediction of the magnitude of adverse effects in biological systems.</li> <li>4. Identify and define the steps in the risk-assessment and risk-management processes.</li> <li>5. Describe the steps in the regulatory process in terms of risk assessment and risk management.</li> <li>6. Identify significant gaps in the current knowledge base concerning the health effects of environmental agents and identify areas of uncertainty in the risk-assessment process.</li> </ol>
<b>METHOD OF TEACHING AND LEARNING:</b>	In congruence with the learning and teaching strategy of the college, the following tools are used:

	<ul style="list-style-type: none"> <li>• Class lectures, interactive learning (class discussions, group work) video presentations, and practical problems solved in class.</li> <li>• Exercises and primary source documents are assigned as homework, the solutions of which are reviewed in class</li> <li>• Updating through use of Scientific Journals of the field, such as Journal of Environmental Health, American Journal of Public Health, Environment, EPA Journal, Scientific American, etc.</li> <li>• Office hours: students are encouraged to make full use of the office hours of their instructor, where they can ask questions, see their exam paper, and/or go over lecture/lab material.</li> <li>• Use of a blackboard site, where instructors post lecture notes, assignment instructions, timely announcements, as well as additional resources.</li> </ul>								
<b>ASSESSMENT:</b>	<table border="1"> <tr> <td colspan="2"><b>Summative:</b></td> </tr> <tr> <td><b>First Assessment</b> Written project (2,000-2,500 words) <b>-summative</b></td> <td>40</td> </tr> <tr> <td><b>Second Assessment</b> Final Examination (2-hour, comprehensive), Essays <b>- summative</b></td> <td>50</td> </tr> <tr> <td><b>Third assessment</b> Portfolio  Essay questions aiming to prepare students for their first and second assessments in terms of content, context and time management</td> <td>10</td> </tr> </table> <p><b>Formative:</b> Essay questions (as homework assignments)      <b>0</b></p> <p>The formative tests aim to prepare students for the examinations. Students are expected to submit feedback on their performance. The final examination tests all learning outcomes and it is comprehensive. The project tests Learning Outcome 6. <i>The final grade for this module will be determined by averaging all summative assessment grades, based on the predetermined weights for each assessment. If students pass the comprehensive assessment that tests all Learning Outcomes for this module and the average grade for the module is 40 or higher, students are not required to resit any failed assessments.</i></p>	<b>Summative:</b>		<b>First Assessment</b> Written project (2,000-2,500 words) <b>-summative</b>	40	<b>Second Assessment</b> Final Examination (2-hour, comprehensive), Essays <b>- summative</b>	50	<b>Third assessment</b> Portfolio  Essay questions aiming to prepare students for their first and second assessments in terms of content, context and time management	10
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<b>INDICATIVE READING:</b>	<p><b>Required Reading:</b></p> <ul style="list-style-type: none"> <li>• Nadakavukaren, A. 2011. <i>Our Global Environment: A Health Perspective</i>, 7<sup>th</sup>Ed., Waveland Press, Prospect Heights, Illinois.</li> </ul> <p><b>Recommended Readings:</b></p> <ul style="list-style-type: none"> <li>• Friis, R.H. 2012. <i>Essentials of Environmental Health</i>, Jones &amp; Bartlett Learning</li> </ul>								
<b>INDICATIVE MATERIAL:</b> (e.g. audiovisual, digital material, etc.)	<p><b>REQUIRED MATERIAL:</b> N/A</p> <p><b>RECOMMENDED MATERIAL:</b> N/A</p>								
<b>COMMUNICATION REQUIREMENTS:</b>	Verbal skills using academic/professional English								

<b>SOFTWARE REQUIREMENTS:</b>	Word, PowerPoint, Excel
<b>WWW RESOURCES:</b>	<ul style="list-style-type: none"> <li>• <a href="http://ghr.nlm.nih.gov/">http://ghr.nlm.nih.gov/</a>: Genetics Home Reference</li> <li>• <a href="https://www.dnalc.org/">https://www.dnalc.org/</a>: DNA Learning Center</li> <li>• <a href="http://medtropolis.com/virtual-body/">http://medtropolis.com/virtual-body/</a>: Home of the virtual body</li> <li>• <a href="http://www.niehs.nih.gov/">http://www.niehs.nih.gov/</a>: National Institute of Environmental Health Sciences</li> <li>• <a href="http://ntp.niehs.nih.gov/">http://ntp.niehs.nih.gov/</a>: US National Toxicology Program</li> <li>• <a href="http://www.fda.gov/">http://www.fda.gov/</a>: US Food and Drug Administration</li> <li>• <a href="http://www3.epa.gov/">http://www3.epa.gov/</a>: US Environmental Protection Agency</li> <li>• <a href="https://www.osha.gov/">https://www.osha.gov/</a>: Occupational Safety and Health Administration</li> <li>• <a href="http://www.eea.europa.eu/">http://www.eea.europa.eu/</a>: European Environment Agency</li> <li>• <a href="https://osha.europa.eu/">https://osha.europa.eu/</a>: European Agency for Safety and Health at Work</li> <li>• <a href="http://ehp.niehs.nih.gov/">http://ehp.niehs.nih.gov/</a>: Environmental Health Perspectives Journal</li> <li>• <a href="http://www.ehjournal.net/">http://www.ehjournal.net/</a>: Environmental Health Journal</li> <li>• <a href="http://www.neha.org/publications/journal-environmental-health">http://www.neha.org/publications/journal-environmental-health</a>: Journal of Environmental Health</li> <li>• <a href="http://www.tandfonline.com/toc/cije20/current#.VjIspCx2cSU">http://www.tandfonline.com/toc/cije20/current#.VjIspCx2cSU</a>: International Journal of Environmental Health Research</li> <li>• <a href="http://www.cieh.org/jehr/">http://www.cieh.org/jehr/</a>: Journal of Environmental Health Research</li> <li>• <a href="http://www.scientificamerican.com/">http://www.scientificamerican.com/</a>: Scientific American web site</li> </ul>
<b>INDICATIVE CONTENT:</b>	<p><b>CONTENT OUTLINE:</b></p> <ol style="list-style-type: none"> <li>1. Introduction to Ecological Principles</li> <li>2. Population Dynamics</li> <li>3. Population Control</li> <li>4. The People-Food Predicament</li> <li>5. Impacts of Growth on Ecosystems</li> <li>6. Environmental Disease</li> <li>7. Toxic Substances</li> <li>8. Pests and Pesticides</li> <li>9. Food Quality</li> <li>10. Radiation</li> <li>11. The Atmosphere</li> <li>12. Clean Energy Alternatives</li> <li>13. Air Pollution</li> <li>14. Noise Pollution</li> <li>15. Water Resources</li> <li>16. Water Pollution</li> <li>17. Solid and Hazardous Wastes</li> </ol>