

Subject Description Form

Subject Code	ABCT1D15
Subject Title	Our Endangered Earth
Credit Value	3
Level	1
Pre-requisite / Co-requisite/ Exclusion	Exclusion: ABCT2014 Our Endangered Earth
Objectives	To provide basic knowledge to students how human activities led to the deterioration of this planet, their consequences and possible remediation measures, and outlook of various scenarios based on differences of our everyday life choices
Intended Learning Outcomes	<p>Upon completion of the subject, students will be able to:</p> <ol style="list-style-type: none"> a) apply their knowledge and principles on general environmental science to analyze everyday issues; b) identify key environmental problems and solution options; c) know the limitations of nature and how natural balances are maintained; d) be aware of the latest scientific developments in our society and their likely environmental impacts; and e) understand consequences of their everyday life actions on the environment and become ethical members of the society
Subject Synopsis/ Indicative Syllabus	<p>We will begin with exploring the beauty of our natural environment and what it provides for us. Then we will move into some major environmental topics and look at each of them in details, discussing their causes and consequences, distinguishing genuine crisis from false ones based on scientific reasoning and evidence, and what each of us can do to combat them.</p> <p>Our green inheritance and limited planet (6h)</p> <ul style="list-style-type: none"> • Guardians of the environment – Is it our mission? • Our daily bread –Importance of solar energy, fertile soil and water to provide for us • Green wealth – Production of non-food agricultural products, e.g. cotton and timber • Green medicine – Potential medicinal use of living organisms and their conservation • Maintenance of natural resources – Changes in ecosystems by human activities, e.g. desertification and deforestation <p>The crisis (27h; 3hr on each topic)</p> <ul style="list-style-type: none"> • Natural catastrophes – Asteroid impact, earthquake, tsunami, volcanic eruption, typhoon, tornado, flood, severe drought and landslide- how likely are they, and should we be afraid? • Energy supply – How much do we use and how much do we have? What is the problem? Any possible solution? • Wastes, chemicals and environmental pollution – Reuse, reduction, recycle and disposal of waste, natural and artificial recycling of

	<p>materials, health hazards of improper disposal</p> <ul style="list-style-type: none"> • Population growth and food crisis – Food production capacity and why we need family planning • The great thirst – the story of water and why it is increasingly scarce • Disease – Use and misuse of antibiotics and other drugs, the origins of drug-resistance-disease-causal-agents and how human have combated with diseases • Threats on wild-life – Extinction of species and its many causes. How to assess vulnerability of species and what we can do to help. • Biotechnology and the environment – What have we achieved? What are the possible consequences of genetic manipulation? Is GM food really bad for us? • Global climate change –What are the causes and consequences? Can it be prevented? <p>Examples of concepts and ideas to be covered in this course</p> <ul style="list-style-type: none"> • Green and environmental labeling • Green capitalism • Ecological footprint, carbon footprint, carbon credit • Eco-tourism 																																														
<p>Teaching/Learning Methodology</p>	<p>Lectures and tutorials will be the main tool to deliver teaching. We will choose course materials based on its importance to the topic and relevance to students’ daily lives. Lecture notes, videos, Blackboard and other teaching tools will be used.</p> <p>During tutorials, materials such as recent environmental news or case study will be provided. Students will participate in group discussion to evaluate the material.</p> <p>In addition, some tutorials will be assigned to help students on their course paper writing.</p> <p>Students are also expected to study reference materials distributed in class, from the library or any other sources (e.g. films, newspaper and magazine clippings and information available on the Internet).</p>																																														
<p>Assessment Methods in Alignment with Intended Learning Outcomes</p>	<table border="1" data-bbox="518 1523 1469 2004"> <thead> <tr> <th rowspan="2">Specific assessment methods/tasks</th> <th rowspan="2">% weighting</th> <th colspan="6">Intended subject learning outcomes to be assessed (Please tick as appropriate)</th> </tr> <tr> <th>a</th> <th>b</th> <th>c</th> <th>d</th> <th>e</th> <th></th> </tr> </thead> <tbody> <tr> <td>1. Short quiz</td> <td>30%</td> <td></td> <td>√</td> <td>√</td> <td>√</td> <td>√</td> <td></td> </tr> <tr> <td>2. Online journal</td> <td>20%</td> <td>√</td> <td></td> <td></td> <td>√</td> <td>√</td> <td></td> </tr> <tr> <td>3. Course paper</td> <td>50%</td> <td>√</td> <td>√</td> <td>√</td> <td>√</td> <td>√</td> <td></td> </tr> <tr> <td>Total</td> <td>100 %</td> <td colspan="6"></td> </tr> </tbody> </table> <p>Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:</p>	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)						a	b	c	d	e		1. Short quiz	30%		√	√	√	√		2. Online journal	20%	√			√	√		3. Course paper	50%	√	√	√	√	√		Total	100 %						
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	<p>Course assessment:</p> <p>Short quiz x 3 30%</p> <p>Reflective essay x 2 20%</p> <p>Course paper 50%</p> <p style="padding-left: 40px;">10% from feedbacks on two drafts (by ELC staff)</p> <p style="padding-left: 40px;">40% from final paper</p> <p>Three post-lecture quizzes are aimed to encourage active participation and concentration in learning. A case study will be given to the students during each quiz and students will need to apply the key concepts covered in the lectures for analysis and to answer questions. The aim of these quizzes is to encourage students' active participation in learning and allow the lecturers to closely monitor the learning progress of the students. Feedback to quizzes will be provided to students to clarify any misunderstanding.</p> <p>Students will be asked to write 2 online journals after lecture. One will be regarding a recent environmental event (happened within 1 year of the semester). Students should write their personal reflection on the event and also evaluate how the event could have impacted their personal lives. In the second journal, students will write on a topic that they experienced a personal change in attitude and understanding after attending the course, or an article where the student disagree with the writer (e.g. from newspaper, magazine, journals) with supporting reasons. These journals challenge the students' existing thinking and serve as guides on how to apply the knowledge from the course on their personal lives to facilitate life-long learning.</p> <p>The course paper will require students to present an environmental issue of their choice and to discuss its cause, consequence and how the issue can be tackled, based on available scientific evidence. In this exercise, students will need to apply their knowledge and concepts of general environmental science and critical thinking skills for analysis. In addition, students' awareness on environmental issues and new scientific development can be enhanced.</p>	
<p>Student Study Effort Expected</p>	Class contact:	
	<ul style="list-style-type: none"> ▪ Lecture 	26 Hrs.
	<ul style="list-style-type: none"> ▪ Tutorial 	12 Hrs.
	<ul style="list-style-type: none"> ▪ Meeting with ELC staff 	1 Hr.
	Other student study effort:	
	<ul style="list-style-type: none"> ▪ Voluntary tutorial with ELC teachers and viewing of online materials 	1 Hr.
	<ul style="list-style-type: none"> ▪ Reading reference materials 	30Hrs.
	<ul style="list-style-type: none"> ▪ Writing course paper 	35Hrs
Total student study effort		105Hrs.
<p>Reading List and References</p>	<p>Required reading</p> <ol style="list-style-type: none"> 1. Intergovernmental Panel on Climate Change (IPCC) (2013) Fifth Assessment Report, Summary for Policymakers. www.climatechange2013.org/images/uploads/WGI_AR5_SPM_brochure.pdf 	

(32 pages)

2. Meadows DH (2004) Limits to Growth: the 30-year Update. Chelsea Green Publishing, White River Junction, VT, USA. ISBN 1-931498-58-X. Chapters 7, 8 and Appendices 1 and 2. (50 pages)
3. Wilson EO (2002) The Future of Life. Vintage Books, New York, USA. ISBN 978-0679768111. Chapters 1 and 7. (50 pages)

Recommended reading

1. Food, Inc. (Documentary), directed by Robert Kenner, distributed by Magnolia Pictures, USA.
2. The Day After Tomorrow (Film), directed by Roland Emmerich, distributed by 20th Century Fox, USA.
3. Blue Gold: World Water Wars (Documentary), directed by Sam Bozzo, distributed by Public Broadcast Service, USA.
4. An Inconvenient Truth (Documentary), directed by Davis Guggenheim, distributed by Paramount Classics, USA.
5. Jared Diamond (2005) Collapse, How Societies Choose to Fail or Succeed, Viking Press, New York, NY, USA. ISBN 978-0143117001. Chapters 14-15.
6. Charles Fishman (2011) The Big Thirst: The Secret Life and Turbulent Future of Water, Free Press, New York, NY, USA. ISBN 978-1-4391-0207-7. Chapter 10.
7. Paul Hawken, Amory Lovins, Hunter Lovins (2010) Natural Capitalism: the Next Industrial Revolution (Revised edition), Earthscan, New York, NY, USA. ISBN 978-0-316-35316-8. Chapters 6 and 13.
8. Tristram Stuart (2009) Waste: Uncovering the Global Food Scandal, W.W. Norton & Company Inc, New York, NY, USA. ISBN 978-0-393-06836-8. Chapters 6 and 17.
9. Spellberg B (2009) Rising Plague: the global threat from deadly bacteria and our dwindling arsenal to fight them. Prometheus Books, Amherst, NY, USA. ISBN 978-1-59102-750-8. Chapters 2 and 9.

Additional 2-3 topical references from peer-reviewed literature will be provided for students after each lecture or during tutorial.