UNIVERSITI TEKNOLOGI MARA

BDY532: GLOBAL CLIMATE CHANGE

Course Name (English)	GLOBAL CLIMATE CHANGE APPROVED
Course Code	BDY532
MQF Credit	3
Course Description	This introductory course on climate change presents Earth's climate system and explores the science and politics of global climate change. We will cover the topics from global climate change texts books, the 2007 IPCC report, various advanced climate texts, and current journal literature. This 14 weeks' course consists of 10 lessons. Course topics include the greenhouse effect, ocean circulation, the science and politics of climate change and climate change impacts on Malaysia.
Transferable Skills	On completion of the course the student will be able to: 1. Addresses the ongoing climate change phenomenon occur to the environment. 2. Apply the skills and knowledge gain from this course to develop possible strategies to address the climate change. 3. Communicate effectively with others to solve some given situations and problems.
Teaching Methodologies	Lectures, Tutorial, Discussion, Presentation
CLO	CLO1 Understand the basic concepts in climate such as: global energy balance, surface energy balance, hydrological cycle, atmospheric and oceanic general circulation related to climate, and natural and anthropogenic climate variability/change. CLO2 Explain and describe the current climate change issues based on the several recent published papers and books on the subject, a number of summaries from critical reports and material from online sources as well as audiovisual resources. CLO3 Apply the knowledge, collect and prepare papers including assignments with respect to global climate change on which they will be asked to make a brief presentation in class.
Pre-Requisite Courses	No course recommendations

Topics
1. Introduction to climate change 1.1) Global energy balance 1.2) Surface energy balance 1.3) Hydrological cycle 1.4) General circulation (atmospheric and oceanic)
2. Understanding our past climate 2.1) Hypsithermal period 2.2) Recent chronology
3. Greenhouse gases 3.1) Characteristic of greenhouse gasses 3.2) Greenhouse effect 3.3) Carbon cycle 3.4) Radiation balance
4. The natural causes of climate change 4.1) Orbital variations 4.2) Lithospheric motions 4.3) Volcano eruptions

5. Human/anthropogenic activities 5.1) Greenhouse gas emissions 5.2) Radioactive forcing
6. Effect of climate change on human 6.1) Health 6.2) Economics 6.3) Food security
7. Ecological impacts of climate change 7.1) Impact on land 7.2) Impact on ocean
8. Reducing the impact 8.1) Adaptive capacity 8.2) Mitigation efforts 8.3) Integrating adaptive and mitigation approach
9. Policy, politics, and economics of climatic change 9.1) Energy policy 9.2) Environmental policy 9.3) Transport policy 9.4) Intergovernmental Panel on Climate Change 9.5) The German Climate Action Plan 2050
10. Impact of climate change to Malaysia 10.1) Mean daily temperature 10.2) Extreme weather 10.3) Rainfall variability 10.4) Mean sea level 10.5) Economic loss 10.6) Public health

Assessment Breakdown	%
Continuous Assessment	60.00%
Final Assessment	40.00%

Details of Continuous Assessment

Assessment Type	Assessment Description	% of Total Mark	CLO
Assignment	Written assignment	20%	CLO2
Presentation	Video presentation	20%	CLO3
Test	Test	20%	CLO1

Reading List

Recommended Text

- **Core Writing Team, R.K Pachauri, and L.A Meyer (eds.) 2015, *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, IPCC Geneva, Switzerland [ISBN: 9789291691432]**

Reference Book Resources

- **Walter Leal Filho, Kathryn Adamson, Rachel M. Dunk, Ulisses M. Azeiteiro, Sam Illingworth, and Fa´tima Alves 2016, *Implementing Climate Change Adaptation in Cities and Communities Integrating Strategies and Educational Approaches*, Springer International Publishing Switzerland [ISBN: 9783319285894]**
- **Rais Akhtar 2016, *Climate Change and Human Health Scenario in South and Southeast Asia*, Springer New Delhi, India [ISBN: 9783319236834]**
- **Walter Leal Filho 2015, *Handbook of Climate Change Adaptation*, Springer-Verlag Germany [ISBN: 9783642386718]**

Article/Paper List

This Course does not have any article/paper resources

Other References

This Course does not have any other resources