



UNIVERSITI TEKNOLOGI MARA

SCE500: NATURE OF SCIENCE

Course Name (English)	NATURE OF SCIENCE APPROVED
Course Code	SCE500
MQF Credit	3
Course Description	Students understand the principles, theories, and methods of modern science, the relationship between science and technology, the implications of scientific discoveries and the potential of science and technology to address problems of the contemporary world
Transferable Skills	science process skills laboratory skills
Teaching Methodologies	Lectures, Seminar/Colloquium, Demonstrations, Case Study, Practical Classes
CLO	CLO1 Students describe basic facts, principles, theories and methods of modern science. CLO2 Students identify key events in the development of science and recognize that science is an evolving and dynamic. CLO3 Students explore the interdependency between nature of science , theory and law towards human civilization.
Pre-Requisite Courses	No course recommendations
Topics	
1. The nature of Science: An overview 1.1) N/A	
2. The nature of Mathematics and Technology 2.1) N/A	
3. Theory; Hypothesis; and Law 3.1) N/A	
4. Explanation & Truth 4.1) Future of Humanity	
5. Confirmation 5.1) Future of Artificial Intelligence	
6. Under determination 6.1) Future of Technology	
7. Observation 7.1) Future of Medicine	
8. Blurring the internal-external distinction 8.1) Future of Wealth	
9. Coherence and truth 9.1) Future of Space	
10. Objective evidence 10.1) Future of Energy	
11. Science and common sense 11.1) Future of Nanotechnology	
12. Religion and Science 12.1) N/A	

Assessment Breakdown	%
Continuous Assessment	100.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Assignment	Students are required to: 1. Identify one science fiction related movie. 2. Watch the movie. 3. Identify the science components that can be observed. 4. Then, do a critical analysis of the content of the movie. You may relate with what you have learnt in class. It is also interesting to look at the technologies that may be found in the movie and do some reflections on the future technologies.	20%	CLO1
	Case Study	For this assignment, students are required to: 1. Identify one great scientist who had made a significant contribution in science field. Ex: Louis Pasteur, Archimedes, Albert Einstein etc... 2. Read on the story of their journey towards the discovery. 3. Then, identify the components of the nature of science (specifically on the scientific method components) and do a critical analysis of them.	30%	CLO1
	Portfolio/Log Book	Students are required to prepare one online platform (eg: blogspot, padlet) to share all their thoughts/activities and all important information about what have been discussed in class. Students may consider this platform as the journal of what they did for the SCE500 course in one semester.	30%	CLO2
	Presentation	Students are required to prepare a Power Point slide to discuss about the topic assigned. Group 1 : Observation & Explanation and sub theme Group 2: Under determination and sub theme Group 3: Confirmation Group 4: Evidence Objectivity and sub theme Group 5: Science, Common Sense and Religion and sub theme Please include experiment videos related to the topics.	20%	CLO3

Reading List	Reference Book Resources	<ul style="list-style-type: none"> • Kosso, P 1997, <i>Reading The Book Of Nature: An Introduction</i>, Cambridge University Press • Wolpert, L 1997, <i>The Unnatural Nature of Science</i>, Harvard University Press • Losee, J 1993, <i>A Historical Introduction to the Philosophy of Science</i>, 3 Ed., Oxford • Ackoff, R.L 1967, <i>Scientific Method. Optimising Applied Research</i>, WILEY, New York • AAAS 1990, <i>Science for all Americans</i>, Oxford University Press
Article/Paper List	This Course does not have any article/paper resources	
Other References	This Course does not have any other resources	