

## Micro-modules Development for a Compulsory Science Core-text Course



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In Dialogue with Nature (UGFN1000) is a compulsory science core-text course in the Chinese University of Hong Kong. It requires students to read science-related classics and discuss core questions that arise from the readings which are related to enduring concerns of human.

To meet students' diverse needs, a set of text-based micro-modules was developed and implemented on Knowledge & Education Exchange Platform (KEEP). It aims to explain basic science concepts as well as provide related background knowledge for students to understand and reflect on the corresponding texts.

與自然對話 IN DIALOGUE WITH NATURE

通識教育基礎課程讀本

MICRO-MODULES

Reading list of the course

Table of Contents

from The Beginnings of Western Science

The Beginnings of Western Science

from On the Origin of Species / Charles Darwin from DNA: The Secret of Life / James D. Watson

cience and Method / Henri Poincaré

Text 10a from Why the Scientific Revolution Did Not Take Place 219 in China-or Didn't It? / Nathan Sivin

Text 11a from The Mathematical Universe / William Dunham

Brush Talks from Dream Brook / Shen Kua

earch of Memory: The Emergence

from Silent Spring / Rachel Carson

Text 10b from 《夢溪筆談》/沈括

The Birth of a New Physics / I. Bernard Coher The Principia: Mathematical Principles of Natural Philosophy / Isaac Newton

Copyright Acknowledgements

Text 1a from Republic Plato

CONTENT COVERAGE OF THE MICRO-MODULES

140 micro-modules to meet students' diverse needs

## 1. Necessary background knowledge



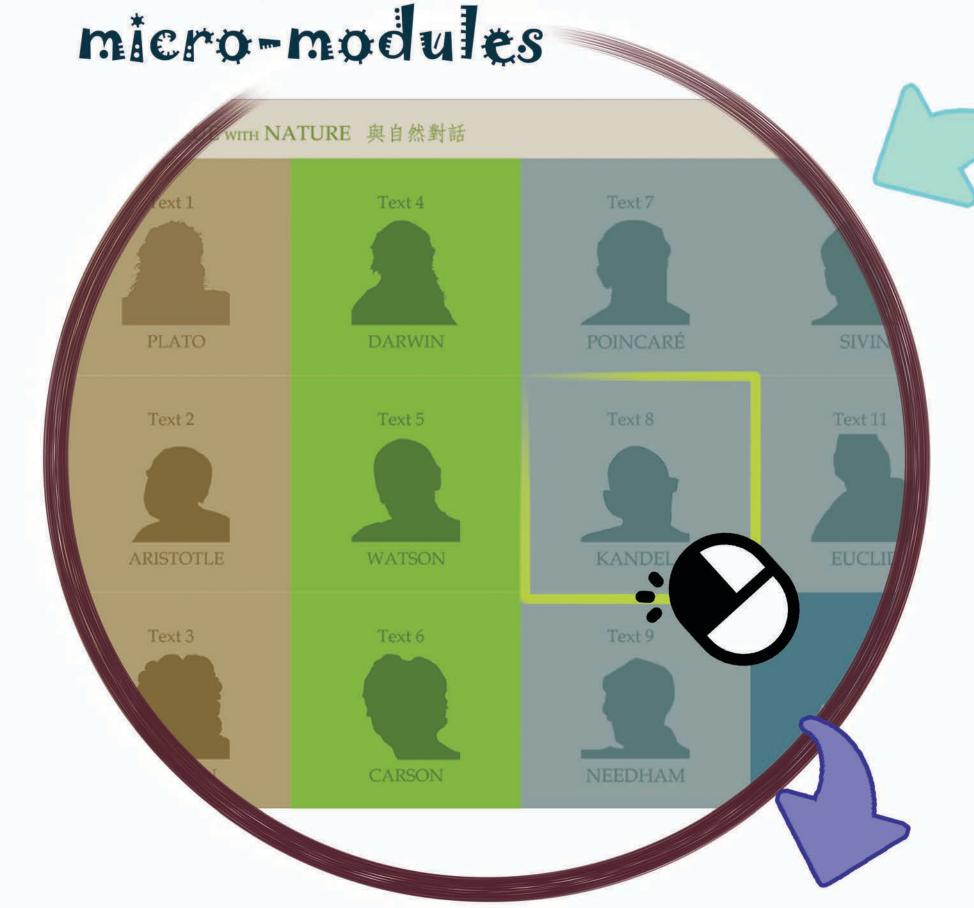
Explanation on Newton's Law (Text 3)

## 2. Historical background



Introduction on history of Chinese Science (Texts 9 & 10)

Home page of the



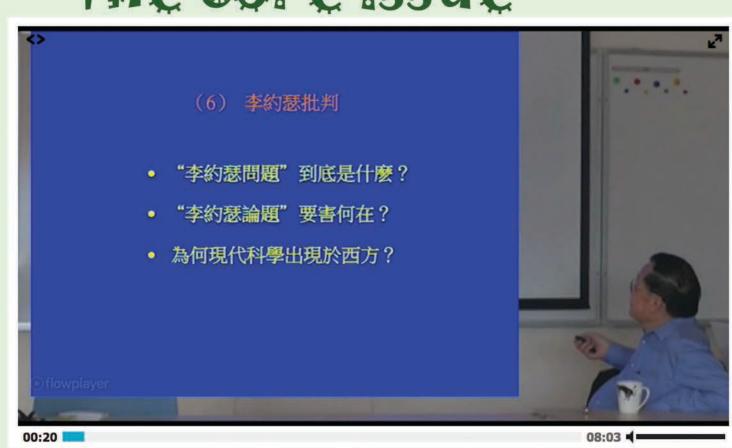
List of the short videos under a fext (Text 8 as an example)

Speaker	Туре	Language	Title of the video
Prof. Lau Chong-fuk	Guest Speaker	Cantonese	On Determinism
Prof. Lau Chong-fuk	Guest Speaker	Cantonese	On Dualism
Prof. Wong Chun-nang Alan	Guest Speaker	Cantonese	Manipulating consciousness? (With the example of binocular rivalry)
Dr. Cheung Hang Cheong Derek	UGFN lecturer	Cantonese	Language Ability and Moral Reasoning Test on Split Brain Patient
Dr. Lee Ka Yan Karen	UGFN lecturer	English	Introduction on Human Brain and Split Brain Patient
Dr. Lee Ka Yan Karen	UGFN lecturer	English	Visual Test and Tactile Test on Split Brain Patient
Dr. Lee Ka Yan Karen	UGFN lecturer	English	Language Ability and Moral Reasoning Test on Split Brain Patient
Dr. Wu Jun Vivian	UGFN lecturer	Mandarin	Introduction on Human Brain and Split Brain Patient
Dr. Wu Jun Vivian	UGFN lecturer	Mandarin	Visual Test and Tactile Test on Split Brain Patient
Dr. Wu Jun Vivian	UGFN lecturer	Mandarin	Language Ability and Moral Reasoning Test on Split Brain Patient
Student helper	Student	Cantonese	Interesting topics related to Text 8

Types of videos: a. Videos from recorded public lectures given by quest speakers

UGFN 10 b. Videos recorded LVF (i.e. Right hemisphere): Nature in ELITE studio Topic: Visual Test and Tactile Test on plit Brain Patient see the lights and skilled in visual ot know what the other is

c. Videos on student discussion 3. Knowledge extended from the core issue



Academic discussion on Needham question by Prof. Chen Fong Ching (Texts 9 & 10)

4. Alternative angles to approach the text
Micro-modules of peer interpretation and discussions



"For instance, (regarding the text about) Newton, for people like me who had no science background, the micro-modules introduced some basic physics knowledge. That helped me understand the meaning of formulas when I read the text." Social Science,

"Perhaps the lecture time was too short. After the lecture, and before the tutorial, (1) could make use of the micro-modules to gain a better understanding. In other words, it supplemented and deepened my understanding."



"I watched some (videos) about Chinese worldview and Chinese medicine... I didn't understand the text when I read it, watching the videos could help me comprehend the theory, so I could have a smoother discussion during tutorials." Biochemistry,