

The Chinese University of Hong Kong
Department of Philosophy
UGED1111F Logic 邏輯
Course Outline

Lecturer: Dr. Arthur C. S. CHIN

Email: arthurchin2@yahoo.com.hk

Lecture time: Fri 16:30-18:15

Instruction language: Cantonese / English

Venue: LHC104

Course Overview

This course aims to develop students' ability to identify, analyze and evaluate arguments in a clear and logical manner. It will introduce to students important concepts in logic such as validity, logical implication, and fallacy. Principles of deductive and inductive reasoning will be explained, and a range of examples will be employed to illustrate how such principles may be applied. Through extensive case studies, in-class discussions and problem sets, students will come to acquire not only the requisite theoretical knowledge but also the appropriate disposition to think analytically and critically.

Learning Outcomes

- 1) Understanding the central concepts and principles in classical logic.
- 2) Having the ability to identify, interpret, and critically assess arguments in different spheres of life.
- 3) Having the ability to identify the various forms of argument and assess their validity.
- 4) Understanding the basic rules of the formal system of propositional logic, and having the ability to translate arguments in ordinary language into corresponding symbolic forms, and to construct proofs within that system.
- 5) Having the ability to identify and explain common fallacies.

Topics

- 1) Ordinary Language and Meaning Analysis
- 2) Argument Identification
- 3) Deductive Reasoning and Basic Concepts in Logic
- 4) Propositional Logic: Formal Language, Truth Table Method (Full and Indirect), and Natural Deduction
- 5) Inductive Reasoning

Course Schedule and Readings

- All readings are available on Blackboard, except Lau (2011) the full text of which is accessible through CU Library.

Week	Date	Topic	Remark
1	Sept 5	<p>Introduction</p> <p>Key concepts: (i) what logic is; (ii) the relevance and importance of logic to our person and social life</p> <p><u>Reading</u></p> <ul style="list-style-type: none"> Recommended: Lau (2011) Chapter 1 	
2	Sept 12	<p>Meaning Analysis and Argument Identification</p> <p>Key concepts: (i) method of definition; (ii) argument and non-inferential passages; (iii) techniques in argument identification; (iv) basic strategies in evaluating an argument</p> <p><u>Reading</u></p> <ul style="list-style-type: none"> Basic: Lau (2011) Chapter 3-4 and 8 Recommended: Hurley (2018) Chapter 1 Section 1.2, pp.14-33. 	
3-5	Sept 19, 26 and Oct 3	<p>Deductive Logic</p> <p>Key concepts: (i) deductive and inductive logic; (ii) logical and empirical possibility; (iii) validity and soundness; (iv) logical strength and equivalence; (v) deductive argument form</p> <p><u>Readings</u></p> <ul style="list-style-type: none"> Basic: Lau (2011) Chapter 7 and 9 Recommended: Hurley (2018) Chapter 1 Sections 1.3-1.4, pp.33-52. 	
6	Oct 10	<p>Propositional Logic: Basics</p> <p>Key concepts: (i) formal logic; (ii) syntax in propositional logic; (iii) semantics of logical connectives and truth-table</p> <p><u>Reading</u></p> <ul style="list-style-type: none"> Basic: Hurley (2018): Chapter 6 "Propositional Logic" 	
7	Oct 17	In-Class Midterm Test	40%

8	Oct 24	<p>Propositional Logic: Testing Validity by Truth Table</p> <p>Key concepts: (i) formalizing natural language arguments; (ii) method of full truth table; (iii) method of indirect truth table</p> <p><u>Reading</u></p> <ul style="list-style-type: none"> • Basic: Hurley (2018) Chapter 6 	
9-11	Oct 31, Nov 7 and 14	<p>Propositional Logic: Natural Deduction</p> <p>Key concepts: (i) concept and structure of natural deduction; (ii) 11 rules of inference; (iii) soundness and completeness of natural deduction</p> <p><u>Reading</u></p> <ul style="list-style-type: none"> • Basic: Hurley (2018) Chapter 7 	
12	Nov 21	<p>Inductive Logic</p> <p>Key concepts: (i) defeasibility of inductive inference; (ii) strength and cogency of induction; (iii) common types of inductive argument</p> <p><u>Readings</u></p> <ul style="list-style-type: none"> • Basic: Lau (2011) Chapter 10 (excluding section 10.4), Chapter 17 and 21 • Recommended: 貝剛毅 (2014) 第四篇 歸納法 (12 至 15 章) 	
13	Nov 28	In-Class Final Test	50%

Learning Resources

1. Copi, Irving & Cohen, Carl & McMahon, Kenneth (2014). *Introduction to Logic* (14th ed., International Edition). Upper Saddle River, NJ: Pearson Education.
2. Lau, Joe Y. F. (2011). *An Introduction to Critical Thinking and Creativity: Think More, Think Better*. Hoboken, N.J: Wiley. (E-book on Blackboard)
3. Hausman, Alan & Kahane, Howard & Tidman, Paul (2010). *Logic and Philosophy* (11th ed.). Boston, MA: Thomson Wadsworth/Cengage Learning.
4. Hurley, Patrick (2018). *A Concise Introduction to Logic* (13th ed.). Australia ; Stamford, Ct.: Cengage Learning. (E-book on Blackboard)
5. Schick, Theodore & Vaughn, Lewis (2014). *How to Think about Weird Things* (7th ed.). New York: McGraw-Hill Companies, Inc.
6. 貝剛毅, 2014, 思方導航 (第四版), 匯智出版

Learning Activities and Workload

- Lecture (2 hours each week)
- Reading for each topic
- Class Exercises (NOT part of course assessment)

Assessment Scheme

Task	Description	Weight
Participation	In-Class Q&A (UReply) and discussion	10%
Midterm Test	In-Class exam (Oct 17)	40%
Final Test	In-Class exam (Nov 28)	50%

- Format of Midterm and Final Test: T/F questions, MC, and short questions.
- Students will get to familiarize themselves with the format of test questions through class exercises.
- Questions may be in Chinese or English only.

Details of Course Website

We use Blackboard for this course. Lecture notes and other information concerning problem sets and exams will be announced on the course website in due course.

Feedback for Evaluation

Students are strongly encouraged to provide feedback on the course via email or meetings with lecturer. Students will evaluate the course through a survey and written comments at the end of the term as well as via regular feedback between teacher and students. This information is highly valued and is used to revise teaching methods, tasks, and content.

Academic Honesty and Plagiarism

Attention is drawn to University policy and regulations on honesty in academic work, and to the disciplinary guidelines and procedures applicable to breaches of such policy and regulations. Details may be found at <http://www.cuhk.edu.hk/policy/academichonesty/> .

With each assignment, students are required to submit a signed declaration (attachment 1) that they are aware of these policies, regulations, guidelines and procedures. For group projects, all students of the same group should be asked to sign the declaration.

For assignments in the form of a computer-generated document that is principally text-based and submitted via **VeriGuide**, the statement, in the form of a receipt, will be issued by the system upon students' uploading of the soft copy of the assignment. Assignments without the receipt will not be graded by teachers. Only the final version of the assignment should be submitted via VeriGuide.

Grade Descriptors

Please refer to: http://phil.arts.cuhk.edu.hk/~phidept/UG/Grade_descriptors.pdf

Guidelines on the Use of Artificial Intelligence Tools in Teaching, Learning and Assessments

This course adopts Approach 1 with respect to the use of AI tools in course assessments. Such approach 1 is specified by the Academic and Quality Section as follows: “Approach 1 – Prohibit all use of AI tools Students are not allowed to use any AI tools in any kind of learning activity or assessment that will be counted towards students’ final grade of the course, or used for evaluating students’ attainment of the desired learning outcomes. Students are expected to produce their own work independently without any collaboration or use of AI tools.”