The Chinese University of Hong Kong
Department of Philosophy

UGED1112 Logic & Argumentation 邏輯與論辯
Course Outline

(The primary teaching language in class is Cantonese.)

Course overview

This course is designed to develop the student's ability to analyze and critically evaluate arguments from a logical point of view. It will provide students with a basic understanding of such concepts as reasons, implication, validity, and fallacies. Students will learn the logical principles of deductive and inductive inferences and the techniques of applying them for determining the validity of arguments. Elements of good reasoning from an informal perspective will also be covered.

Learning outcomes

1. Acquire analytic skills and a critical disposition.
2. Grasp the central concepts in classical logic.
3. Demonstrate familiarity with major proof-theoretic methods in propositional and predicate logic.
4. Translate arguments in ordinary language into symbolic argument forms.
5. Recognize common valid argument forms.
6. Identify, classify, and assess arguments in various contexts.
7. Identify and analyze informal fallacies.

Topics

1. Logical Thinking
2. Basic Concepts
3. Informal Fallacies
4. Categorical Syllogisms
5. Symbolic Language and Truth Table
6. Natural Deduction in Propositional Logic
7. Natural Deduction in Predicate Logic

Learning activities and workload

In-class:

1. Lecture: 2 hours each week.
2. Interactive tutorial: one 2-hour session every two weeks. Students are required to discuss reading material assigned and do exercises on the following topics:

   Topic of tutorial 1: Validity and Soundness;

   Topic of tutorial 2: 10 Different Kinds of Informal Fallacies;

   Topic of tutorial 3: Syllogisms and Venn Diagrams;

   Topic of tutorial 4: Truth Table;

   Topic of tutorial 5: Propositional Logic and Constructing Formal Proofs;

Topic of tutorial 6: Predicate Logic and Constructing Formal Proofs.

Out-of-class:

1. Reading: 3–4 hours each week on lecture material and 2 hours on tutorial material.
2. Homework: 2 hours each week.

   Weeks 1–3: textbook Ex1.3–Ex1.4 (Basic Concepts);

   Weeks 4–5: textbook Ex3.2–Ex3.4 (Informal Fallacies);

   Week 6: textbook Ex4.1–Ex4.7 (Categorical Propositions);

   Weeks 7–8: textbook Ex5.2, Ex5.4–Ex5.5 (Categorical Syllogisms);

   Week 9: textbook Ex6.1–Ex6.3 (Symbolic Language and Truth Table);

   Weeks 10–11: textbook Ex7.1–Ex7.4 (Natural Deduction in Propositional Logic);

   Weeks 12–13: textbook Ex8.1–Ex8.3 (Natural Deduction in Predicate Logic).

Assessment scheme

Task nature	***Description***	***Weight***
Two exams: mid-term and final	Each exam is worth 35%	70%
Class participation	Class discussion	10%
Tutorial	Discussion and participation	20%

Remarks:

1. Tutorial *(6 normal sessions)*:
   - Apart from reading material, problems with exercises and homework will be discussed.
   - Attendance is mandatory and *absence will damage your grades*.
2. Class participation
   - Grading is based on participation in discussion.

Recommended learning resources

1. Patrick Hurley, *A Concise Introduction to Logic*, 14th ed., Cengage Learning, 2024. (***Textbook***)
2. Irving Copi and Carl Cohen, *Introduction to Logic*, 11th ed., Prentice Hall, 1998.
3. Merrie Bergmann and James Moore, *The Logic Book*, 4th ed., McGraw-Hill, 1998.
4. Alec Fisher, *The Logic of Real Arguments*, Cambridge University Press, 1988.
5. Douglas N. Walton, *The New Dialectic: Conversational Contexts of Argument*, University of Toronto Press, 1988.
6. Douglas N. Walton, *Informal Logic*, Cambridge University Press, 1989.
7. Trudy Govier, *A Practical Study of Argument*, 5th ed., Wadsworth Thomson Learning, 2001.
8. Wayne Grennan, *Informal Logic: Issues and Techniques*, McGill-Queen's University Press, 1997.
9. Richard Jeffrey, *Formal Logic*, 2nd ed., McGraw-Hill, 1989.
10. Wesley Salmon, *Logic*, Prentice Hall, 1963.
11. Peter Strawson, *Introduction to Logical Theory*, Methuen, 1952.
12. 林正弘，《邏輯》，三民書局，1994。
13. 李天命，《李天命的思考藝術》，明報出版社有限公司，1999。

Feedback for evaluation

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

Course schedule

Week	***Topic***	***Requirements***
1	Logical Thinking	Major reading: textbook pp. 1–22
2–3	Basic Concepts	Major reading: textbook pp. 30–59
4	Tutorial #1	
4–6	Informal Fallacies	Major reading: textbook pp. 108–175
6	Tutorial #2	
7–9	Categorical Syllogisms	Major reading: textbook pp. 176–254
8	Tutorial #3	
10	Symbolic Language and Truth Table	Major reading: textbook pp. 275–322
10	Tutorial #4	
11–12	Natural Deduction in Propositional Logic	Major reading: textbook pp. 340–381
12	Tutorial #5	
13	Natural Deduction in Predicate Logic	Major reading: textbook pp. 395–417
13	Tutorial #6	

Contact details

Lecturer	
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Details of course website

We use Blackboard Learn for this course. Lecture notes and information on tutorial arrangement will be posted on the website.

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 will be required to submit a signed declaration 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 for Essay Examinations

[Excellent] A (85–92) or [Very Good] A- (80–84)	Argument • You faithfully reconstruct the author's positions, and prove this knowledge by knowing the argument(s) supporting the theses in the text. • You evidence independent and self-initiated thinking and understanding of the arguments and philosophical problems through your ability to present your own counter-arguments and possible replies to counter-arguments. Theory Analysis • You exhibit thorough understanding of the relations of the themes presented in the various texts. • You demonstrate a comprehensive understanding of the relations between the various subjects and authors discussed in the course. • You demonstrate an above-average facility in judgment by applying the various theories to cases and situations presented in the course of the exam.
[Good] B+ (76–79), B (72–75), or B- (68–71)	Argument • You can faithfully reconstruct the author's positions, and demonstrate a basic comprehension of the arguments supporting those positions. • You show some independence in thinking, but have difficulty developing your own criticisms and rebuttals to criticism. Theory Analysis • You exhibit relatively complete understanding of the relations between the authors and the themes presented in the various texts. • You show some basic, though average, facility in judgment by applying the various theories to cases and situations presented in the course of the exam.
[Fair] C+ (64–67), C (60–63), or C- (56–59)	Argument • You demonstrate an ability to properly relay information about the various texts and the positions contained therein, but have difficulty re-constructing the arguments, presenting counter-arguments, and criticism. • You can faithfully relay information, but you show no independence in philosophical thinking, fail to show basic competence in philosophical argumentation and have a difficulty understanding arguments. Theory Analysis • You show an incomplete understanding of the relations between the authors discussed in the course as well as the themes presented in the various texts. • You demonstrate competence to memorize information, but you have some difficulty applying various theories to cases and situations presented in the course of the exam.
[Pass] D+ (53–55), or D (50–52)	Argument • You demonstrate some understanding of the course content, but have difficulty relaying accurate information about the positions and the arguments for such positions in the text. Theory Analysis • Although the answers are readable, you exhibit seriously incomplete understanding of the content as well as the relationships between authors and themes covered in the readings and discussed in class. • You fail to demonstrate facility in the application of various theories to cases and situations presented in the course of the exam.

[Fail] F (0-49)	Argument • You demonstrate no understanding of the course content. You relay inaccurate information about the positions and arguments for those positions in the text. Theory Analysis • The answers are unreadable, and your answers exhibit a complete lack of understanding of the relationships between authors and themes covered in the readings and discussed in class.