

Methods in Philosophical and Critical Thinking

Period III: January 16 – March 2, 2017

Objectives:

- Learn to distinguish between the form and the contents of an argument.
- Learn to reduce complex arguments into their components (premises, conclusions, supporting theses) and evaluate them.
- Learn to distinguish between strong arguments and weak ones.
- Learn the basics of some of the formal theories for evaluating arguments (e.g. logical and statistical reasoning).
- Learn how to read a complex philosophical or scientific paper.
- Learn how to develop a cogent philosophical argument.

Classes (biweekly): Mondays 12.15 - 13:45 (Unioninkatu 40, room 24) and Thursdays 10.15 - 11:45 (Unioninkatu 40, room 26).

Assessment (attendance of 11/13 classes is required for credits):

- 10% class attendance
- 20% exercise sessions
- 70% final exam

Contents of the course

The main texts for the course will be: (a) I.M. Copi, C. Cohen and K. McMahon, *Introduction to Logic — 14th Edition*. Pearson (2011); (b) Lemmon E.J., *Beginning Logic*. Chapman & Hall (1965); (c) Ian Hacking, *An Introduction to Probability and Inductive Logic*. Cambridge University Press (2000). Other texts will be provided in class by the instructor.

Structure of the course

The course will be divided in lectures and exercises. The students are requested to attend and participate actively in both lectures and exercises.

Schedule of classes & readings

1. **Introduction** **January 16, 2017**
OPTIONAL READINGS: Copi et al., *Introduction to Logic* – Chapter 1
Moore and Parker *Critical Thinking* – Chapter 1
2. **Analyzing Arguments** **January 19, 2017**
Copi et al., *Introduction to Logic* – Chapter 2
3. **Formal Logic – The Propositional Calculus** **January 23, 2017**
Lemmon, *Beginning Logic* – Chapter 1
Exercises 1 (Arguments): January 27, 2017
4. **Formal Logic – The Predicate Calculus** **January 30, 2017**
Lemmon, *Beginning Logic* – Chapter 3
5. **Fallacies and Biases** **February 02, 2017**
Copi et al., *Introduction to Logic* – Chapter 4
Exercises 2 (Proofs): February 3, 2017
6. **Argumentation Schemes** **February 06, 2017**
Walton, Reed, Macagno, *Argumentation Schemes*, Chapters 1 and 6
Exercises 3 (Fallacies): February 10, 2017
7. **Scientific Argumentation** **February 09, 2017**
Giere, R. N., *Understanding Scientific Reasoning* – Chapter 2
Gross, Harmon and Reidy, *Communicating Science* – Chapter 1
8. **Causal Reasoning** **February 13, 2017**
Copi et al., *Introduction to Logic* – Chapter 12
Walton, Reed, Macagno, *Argumentation Schemes*, Chapter 5
9. **Probability** **February 16, 2017**
Hacking, J., *An Introduction to Probability and Inductive Logic* – Chapters 3 and 4
Exercises 4 (Analysing Arguments): February 17, 2017
10. **Fallacies of Probability** **February 20, 2017**
Hacking, J., *An Introduction to Probability and Inductive Logic* – Chapters 5 and 6
11. **Fallacies and Biases:
– Applications** **February 23, 2017**
OPTIONAL READINGS: Baron, J., *Thinking and Deciding* – Chapters 1 and 2.
Exercises 5 (Probability): February 24, 2017
12. **Thoughts Experiments** **February 27, 2017**
Rescher, N., *Thought Experiments in the History of Science and Philosophy*
Exercises 6 (Recap): Monday or Tuesday, February 27 or 28, 2017
13. **Exam** **March 02, 2017**