

Dominican School of Philosophy and Theology
PH 1115: Aristotelian Logic

Fall 2019

Instructor: John Thomas Mellein, O.P.

Office: East 207

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Course Description

This course focuses on the fundamental principles and techniques of classical logic first articulated in Aristotle's *Organon* and further developed by ancient, medieval, and modern thinkers. The course is loosely organized around the traditional distinction of the three operations of the mind: simple apprehension, judgment, and reasoning. The course will conclude with an examination of logical fallacies and a brief excursus into modern symbolic logic.

Lecture/discussion. Student evaluation will be based on regularly submitted problem sets and three exams. [15 max enrollment; Auditors excluded]

This course meets on Tuesdays and Fridays, 12:40 p.m.–2:00 p.m., DSPT Room 2.

This course serves as an introduction to the basic epistemological and metaphysical concepts of Aristotelian and Thomistic philosophy integral to studying at the DSPT. Thus the course includes a theoretical, philosophical component as well as a practical one. Class time will include lecture, active discussion of primary texts, and review of assigned exercises.

Note: The extensive bibliography was compiled by Fr. Justin Gable, and is used with permission.

Required Texts

1) Kelley, David. *The Art of Reasoning*. Third Edition. New York/London: W. W. Norton & Company, Inc., 1988.

ISBN-13: 978-0-393-97213-9

Many used copies available under \$30.00. See Bookfinder.com or Amazon.

NOTE: I am using the second edition to control the cost of textbooks for this course. Please be sure to get the second edition. Use the ISBN number to verify the edition. There is now a third and fourth edition available. I have a limited number of copies that can be made available.

2) Aristotle, *The Basic Works of Aristotle*. Edited by Richard McKeon. New York:

Modern Library, 2001.

ISBN-13: 978-0375757990.

Paperback. \$21.95.

OR

Aristotle. *The Complete Works of Aristotle (2 Volumes)*. Edited by Jonathan Barnes. Princeton: Princeton University Press, 1984.

ISBN: 9780691016504 \$62.50

ISBN: 9780691016511 \$62.50

3) Learning Packet provided by Instructor.

Cost: \$5–\$10, depending on cost of photocopies

Assignments and weekly readings will be taken from Kelley's *The Art of Reasoning* (second edition); from Aristotle's *Categories*, *On Interpretation*, *Prior Analytics*, *Posterior Analytics*, and *Topics*; and from the learning packet.

Course Grade:

Participation and Assignments (completed, not graded):	20%
Exam 1:	20%
Exam 2:	20%
Final Exam (cumulative):	40%

Students are to abide by the the DSPT's policies regarding academic honesty as found in the *DSPT Student Handbook*. The grading policy as found in the student handbook, as well as the institutional assessment rubrics, will serve as the guideline for grading. We will review the policies at the beginning of the course.

Course and Institutional Learning Goals

The goal of the course is to gain knowledge of and familiarity with traditional logic at a level suitable for an introductory graduate course. This knowledge will include study of the three acts of the intellect, the distinction between demonstrative and dialectical knowledge, and the rules for categorical and hypothetical syllogisms.

The format of the course, especially the in-class discussions, will give students the opportunity to work toward the institutional learning goals: integrative thinking, intellectual humility, self-direction, and ability to collaborate. We will have a brief in-class discussion regarding the institutional learning goals, available here: <https://www.dspt.edu/our-mission>

Outcomes

By the end of the semester, students should be able to:

- Explain the foundational principles of traditional logic, including the three acts of the mind and Aristotle's categories.
- Recognize relations of immediate logical entailment among propositions using obversion, conversion, contraposition, and the Square of Opposition.
- Distinguish valid and invalid syllogisms using Aristotle's rules for syllogisms and knowledge of syllogistic mood and figure.
- Identify material and formal logical fallacies in public rhetoric and everyday conversation.

Course Requirements

Students will be expected to prepare assigned readings and exercises and participate in class discussion. Assigned exercises should be submitted to the professor for credit, although they will not be graded. The completion of assigned problem sets is an important part of the course. The logical techniques and principles discussed in class are meant to be understood so as to be put into practice, so that logic may become a tool for the student's continuing philosophical and theological study, critical thinking, and responsible leadership. Exercises will allow the student's knowledge of logic to become practical and integrated. Three examinations (2 midterm exams and a cumulative final exam) will test students' knowledge of philosophical concepts and facility to apply these in problem solving. Each class section will include two parts: 1) discussion of technical logical details; 2) discussion of Aristotelian or Medieval texts on logical theory, including supposition and signification, dialectic, demonstration, and the requirements for and possibility of scientific knowledge.

Students are expected to be present for class sessions, following the policies set forth in the DSPT Student Handbook. Absences will affect the student's final grade. Students should plan, in particular, to be present for all exams listed on the course syllabus. Make-up exams will be given only in the event of a serious illness (with doctor's note) or an equally grave reason. Students with disabilities or whose first language is not English are encouraged to speak with the instructor about any special needs they might have.

Course Schedule

9/3: Introduction to the Course

9/6: First Act of the Intellect: Categories
Noone, Chapter 1 (pages 1-10)
Aristotle, *Categories*, 1–4
Kelley Chapter 2

9/10: Categories and Fallacies
Noone, Fallacies
Kelley, Chapter 6
Aristotle, *Categories* 5
Euclid, *Elements* (available online)

9/13: Categories and Fallacies
Noone, Fallacies
Kelley, Chapter 6
Aristotle, *Categories* 6
Euclid, *Elements* (available online)

9/17: The First Act of the Intellect: Categories
Aristotle, *Topics* 1–5, 9
Noone, Chapter 2 (14–28)

9/20: The First Act of the Intellect: Categories
Aristotle, *Categories* 7–8
Noone, Chapter 2 (29–41)
Kelley Chapter 3: Definitions

9/24: The Second Act of the Intellect: Propositions
Noone, chapter 3
Kelley, Chapter 8: Propositions
Aristotle, *De Interpretatione*, chapters 1–7

9/27: The Second Act of the Intellect: Propositions
Noone, chapter 3
Kelley, Chapter 8: Propositions
Aristotle, *Prior Analytics*, selections

10/1: The Second Act of the Intellect: Propositions

Noone, chapter 3
Kelley, Chapter 8: Propositions
Aristotle, *Prior Analytics*, selections

10/4: Exam 1

10/8: The Third Act of the Intellect: Categorical Syllogisms
Noone, chapter 4
Kelley, Chapter 9
Aristotle, *Prior Analytics*, selections

10/11: The Third Act of the Intellect: Categorical Syllogisms
Noone, chapter 4
Kelley, Chapter 9
Aristotle, *Prior Analytics*, selections

10/15: The Third Act of the Intellect: Categorical Syllogisms
Noone, chapter 4
Kelley, Chapter 9
Aristotle, *Posterior Analytics*, selections

10/18: The Third Act of the Intellect: Categorical Syllogisms
Noone, chapter 4
Kelley, Chapter 9
Aristotle, *Posterior Analytics*, selections

10/22 & 10/25: Reading Week (No Class)

10/29: The Third Act of the Intellect: Categorical Syllogisms
Kelley, Chapter 9
Aristotle, *Posterior Analytics*, selections

11/1: The Third Act of the Intellect: Categorical Syllogisms
Kelley, Chapter 9
Aristotle, *Posterior Analytics*, selections

11/5: Exam 2

11/8: The Third Act of the Intellect: Disjunctive and Hypothetical Syllogisms
Kelley, Chapter 10
Aristotle, *Posterior Analytics*, selections

11/12: The Third Act of the Intellect: Disjunctive and Hypothetical Syllogisms
Kelley, Chapter 10
Aristotle, *Posterior Analytics*, selections

11/15: The Third Act of the Intellect: Disjunctive and Hypothetical Syllogisms
Kelley, Chapter 9

Aristotle, *Posterior Analytics*, selections

11/19: The Third Act of the Intellect: Syllogisms in Ordinary Reasoning
Kelley, Chapter 11
Aristotle, *Posterior Analytics*, selections

11/22: Introduction to Modern Logic I
Kelley, Chapter 12

11/26: Introduction to Modern Logic II
Kelley, Chapter 12

11/29: THANKSGIVING BREAK

12/3: Introduction to Modern Logic III
Kelley, Chapter 13

12/6: Introduction to Modern Logic IV
Kelley, Chapter 13

Introduction to Modern Logic V
Kelley, Chapter 14

12/10: Final Exam

Additional Resources

The following is list of supplemental and suggested readings. They are by no means required reading for the course, but may be of some interest to students wishing to do additional research in the area of Aristotelian and philosophical logic.

Bäck, Allan. *Aristotle's Theory of Abstraction*. New York: Springer International, 2014. Bennett, Deborah J. *Logic Made Easy: How to Know When Language Deceives You*. New York: W. W. Norton and Company, 2004.

Bergmann, Merrie, James Moor, and Jack Nelson. *The Logic Book*. Sixth Edition. New York: McGraw-Hill, 2013.

Broadie, Alexander. *Introduction to Medieval Logic*. Second Edition. Oxford: Clarendon Press, 1993.

Brown, Leslie. "Definition and Division in Plato's Sophist." In *Definition in Greek Philosophy*, edited by David Charles, 151-71. Oxford: Oxford University Press, 2010.

Charles, David. "Definition and Explanation in the Posterior Analytics and Metaphysics." In *Definition in Greek Philosophy*, edited by David Charles, 286-328. Oxford: Oxford University Press, 2010.

Chiba, Kei. "Aristotle on Essence and Defining-Phrase in His Dialectic." In *Definition in Greek Philosophy*, edited by David Charles, 203-51. Oxford: Oxford University Press, 2010.

Crivelli, Paolo. "The Stoics on Definition." In *Definition in Greek Philosophy*, edited by David Charles, 359-423. Oxford: Oxford University Press, 2010.

Englebretsen, George. *Something to Reckon With: The Logic of Terms*. Ottawa: The University of Ottawa Press, 1996.

Englebretsen, George and Charles Sayward. *Philosophical Logic: An Introduction to Advanced Topics*. New York: Continuum International, 2011.

Føllesdal, Dagfinn. "Husserl and the Categories." In *Categories: History and Systematic Essays*, edited by Michael Gorman and Jonathan J. Sanford, 118-35. Washington, D.C: The Catholic University of America Press, 2004.

Garson, James W. *Modal Logic for Philosophers*. Cambridge: Cambridge University Press, 2006.

Garver, Newton. "Language-Games as Categories: An Aristotelian Theme in Wittgenstein's Later Thought." In *Categories: History and Systematic Essays*, edited by Michael Gorman and Jonathan J. Sanford, 136-47. Washington, D.C: The Catholic University of America Press, 2004.

Geach, P. T. *Logic Matters*. Berkeley, CA: University of California Press, 1980.

Gill, Mary Louise. "Division and Definition in Plato's Sophist and Statesman." In *Definition in*

- Greek Philosophy*, edited by David Charles, 172-99. Oxford: Oxford University Press, 2010.
- Gracia, Jorge J. E. "Are Categories Invented or Discovered? A Response to Foucault." In *Categories: History and Systematic Essays*, edited by Michael Gorman and Jonathan J. Sanford, 268-84. Washington, D.C: The Catholic University of America Press, 2004.
- Groarke, Louis. *An Aristotelian Account of Induction: Creating Something from Nothing*. Montreal, Canada: McGill-Queen's University Press, 2009.
- Haack, Susan. *Philosophy of Logics*. Cambridge: Cambridge University Press, 1978.
- Hansen, Hans V. and Robert C. Pinto, eds. *Fallacies: Classical and Contemporary Readings*. University Park, PA: Pennsylvania State University Press, 1995.
- Hausman, Carl R. "Charles Peirce's Categories, Phenomenological and Ontological." In *Categories: History and Systematic Essays*, edited by Michael Gorman and Jonathan J. Sanford, 97-117. Washington, D.C: The Catholic University of America Press, 2004.
- Hood, Jane. "Galen's Aristotelian Definitions." In *Definition in Greek Philosophy*, edited by David Charles, 450-66. Oxford: Oxford University Press, 2010.
- Hurley, Patrick J. *A Concise Introduction to Logic*. Twelfth Edition. Stamford, CT: Cengage Learning, 2014.
- Lang, Helen. "Aristotle's Categories of When and Where." In *Categories: History and Systematic Essays*, edited by Michael Gorman and Jonathan J. Sanford, 21-32. Washington, D.C: The Catholic University of America Press, 2004.
- Mates, Benson. *Stoic Logic*. Berkeley, CA: University of California Press, 1953. Matilal, Bimal Krishna. *The Character of Logic in India*. Edited by Jonardon Ganeri and Heeraman Tiwari. Albany, NY: State University of New York Press, 1998.
- Matilal, Bimal Krishna and Robert D. Evans, eds. *Buddhist Logic and Epistemology: Studies in the Buddhist Analysis of Inference and Language*. Dordrecht, Holland: D. Reidel Publishing, 1986.
- McMahon, William E. "Reflections on Some Thirteenth- and Fourteenth-Century Views of the Categories." In *Categories: History and Systematic Essays*, edited by Michael Gorman and Jonathan J. Sanford, 45-57. Washington, D.C: The Catholic University of America Press, 2004.
- Modrak, Deborah. "Nominal Definition in Aristotle." In *Definition in Greek Philosophy*, edited by David Charles, 252-85. Oxford: Oxford University Press, 2010.
- Morrow, David R. and Anthony Weston. *A Workbook for Arguments: A Complete Course in Critical Thinking*. Indianapolis, IN: Hackett Publishing, 2011.

- Oderberg, David S., ed. *The Old New Logic: Essays on the Philosophy of Fred Sommers*. Cambridge, MA: MIT Press, 2005.
- Oesterle, John A. *Logic: The Art of Reasoning and Defining*. Second Edition. Englewood Cliffs, NJ: Prentice-Hall, 1963.
- Parry, William T. and Edward A. Hacker. *Aristotelian Logic*. Albany, NY: State University of New York Press, 1991.
- Parsons, Terence. *Articulating Medieval Logic*. Oxford: Oxford University Press, 2014.
- Quinn, Timothy Sean. "Kant: The Practical Categories." In *Categories: History and Systematic Essays*, edited by Michael Gorman and Jonathan J. Sanford, 81-96. Washington, D.C: The Catholic University of America Press, 2004.
- Sanford, Jonathan. "Categories and Metaphysics: Aristotle's Science of Being." In *Categories: History and Systematic Essays*, edited by Michael Gorman and Jonathan J. Sanford, 3-20. Washington, D.C: The Catholic University of America Press, 2004.
- Sim, May. "Categories and Commensurability in Confucius and Aristotle: A Response to MacIntyre." In *Categories: History and Systematic Essays*, edited by Michael Gorman and Jonathan J. Sanford, 58-77. Washington, D.C: The Catholic University of America Press, 2004.
- Smith, Barry. "Carving Up Reality." In *Categories: History and Systematic Essays*, edited by Michael Gorman and Jonathan J. Sanford, 225-37. Washington, D.C: The Catholic University of America Press, 2004.
- Sokolowski, Robert. "Categorical Intentions and Objects." In *Categories: History and Systematic Essays*, edited by Michael Gorman and Jonathan J. Sanford, 204-24. Washington, D.C: The Catholic University of America Press, 2004.
- Sommers, Frederic Tamler. *The Logic of Natural Language*. Oxford: Clarendon Press, 1982.
- Sorabji, Richard. "The Ancient Commentators on Concept Formation." In *Definition in Greek Philosophy*, edited by David Charles, 424-49. Oxford: Oxford University Press, 2010.
- Spangler, Mary Michael. *Logic: An Aristotelian Approach*. Revised Edition. Eugene, OR: Wipf & Stock Publishing, 2012.
- Kelley, Scott M. *An Introduction to Traditional Logic: Classical Reasoning for Contemporary Minds*. Third Edition. Houston, TX: Classical Theist Publishing, 2013.
- Tidman, Paul and Howard Kahane. *Logic and Philosophy: A Modern Introduction*. Eleventh Edition. Belmont, CA: Wadsworth Publishing, 2009.
- Veatch, Henry. *The Two Logics*.