

SACRED HEART MAJOR SEMINARY
College of Liberal Arts

Philosophy of Nature – PHL 350

Fall 2008

INSTRUCTOR: Dr. Philip Blosser

VENUE AND TIME: T, R: 9:00 – 10:25 AM

OFFICE HOURS: Wednesday and Friday, 1:30-2:30 PM, and by appointment

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COURSE DESCRIPTION

This course focuses on the principles of nature and the realm of contingent being. The relationship between philosophy and science is discussed. Consideration is given to such areas as change and motion, nature and mechanism, space and time, life and soul, and the philosophical problems posed by modern science, such as evolution and design.

SPECIFIC COURSE DESCRIPTION

This course will examine the fundamental question: What is nature? The focus of the course is on comparing ancient and modern perspectives of nature and science. The priority of natural form and final causality in Aristotelian natural science will be compared to the modern emphasis upon material and efficient causality and the discovery of mathematical law. Their perspectives will be placed in the context of the scientific revolution and the modern scientific method. The theoretical posture of ancient natural science and its reliance on simple observation will be contrasted with the modern stress upon technological transformation and experimental method. The cosmological question of whether the order of nature as a whole is the product of blind chance or the work of intelligence will also be considered.

GENERAL COURSE OBJECTIVES

1. Philosophical subjects should be taught in such a way as to lead the students gradually to form a coherent worldview of man, the world and God.
2. To prepare students to enter into critical dialogue with their contemporaries by correctly understanding the modern mind. The history of philosophy is taught in such a manner that students might grasp the fundamental principles of the various systems, retaining those elements that are proved to be true, while being able to detect and refute those that are false.
3. The teaching method adopted should stimulate in the students a love of rigorous investigation, critical reflection, and demonstration of the truth, as well as honest recognition of the limits of human knowledge.

4. Careful attention should be paid to the bearing of philosophy on the real problems of life, as well as the questions that engage the minds of students.
5. The students themselves should be helped to perceive the connection between philosophical arguments and the Christian faith (adapted from the Second Vatican Council's *Optatam Toitus*, no. 15).

SPECIFIC COURSE OBJECTIVES

At the conclusion of the course, the student will be able to recognize, understand, and evaluate various conceptions of “nature” and be able to evaluate them in light of the notion of created order. In particular, the student should be able to:

1. Explain the notion of changeable being and the fundamental principles and types of change.
2. Define the idea of nature and contrast it with the artificial and mathematical.
3. State and define the four causes.
4. Understand and distinguish various types of abstraction and apply this to types of science.
5. Define time and place as philosophical and scientific concepts.
6. Compare and contrast chance, purpose and design.
7. Demonstrate the existence of God through philosophy of nature.
8. State and explain presuppositions of modern mathematical science of nature.
9. Distinguish various epistemological levels in our knowledge of nature.
10. Explain and discuss the issues surrounding the trial of Galileo.

COURSE REQUIREMENTS

1. **ATTENDANCE:** Class attendance is required. Excepting extenuating circumstances as determined by the instructor, you are advised that if you miss two or more classes, you will be automatically dropped from the course. Students who ‘attend’ (in the fullest sense of this word) consistently do better than those who do not. Absence due to illness or other emergency must be reported to the Instructor. This requirement makes up 10% of the final grade.
2. **READING:** It is very important that you do the reading assignments. Be prepared to discuss them in class. Lectures and class discussions are meant to help your understanding of the texts, but they are not meant to be a substitute for reading. I appreciate the special difficulties that readings in the philosophy of nature present, but you are still responsible for doing the reading. This assignment is worth 10% of the final grade. Occasional *quizzes*, brief *response papers*, and *oral presentations* may be used as part of the assessment process.
3. **PAPER:** One term paper is required for this course. It must be 8-10 pages in length, typed, double space, font size 12, numbered pages, one-inch margins all around, and handed in on time. This paper will be evaluated according to style, grammar, spelling, and content. Further information on this assignment will follow. This assignment is worth 30% of the final grade.

4. EXAMS: There will be a mid-term and a final exam. The mid-term is worth 20% and the final exam is worth 30% of the final grade.

ACADEMIC HONESTY

Academic integrity is respected. You are expected both by the policy of this Institution and by the demands personal integrity to be honest in all your work. Any form of academic dishonesty will not be tolerated. Occurrences of academic dishonesty will result both in the student's receiving a failing grade on the assignment and in the notification of all appropriate authorities.

GRADING SCALE

95-100	A	80-82	B-	65-69	D+
90-94	A-	77-79	C+	60-64	D
87-89	B+	73-76	C	0-59	F
83-86	B	70-72	C-		

REQUIRED TEXTS

- (1) William A. Wallace, *The Modeling of Nature: Philosophy of Science and Philosophy of Nature in Synthesis*. Washington, DC: Catholic University of America Press, 1996. (ISBN-13: 978-0813208602)
- (2) William A. Wallace, *Elements of Philosophy: A Compendium for Philosophers and Theologians*. Alba House, 1977. (ISBN-13: 978-0818903458)
- (3) Dooyeweerd, *Secularization of Science* (handout)

RECOMMENDED READING

- Adler, Mortimer J. *Aristotle for Everybody*. New York: Simon & Schuster, Touchstone Books, 1997. (Part II)
- Bradley, Gerard V., and DeMarco, Don. *Science and Faith: Proceedings from the Twenty-First Annual Convention of The Fellowship of Catholic Scholars* (1998). South Bend, IN: St. Augustine's Press, 2001.
- *Catholic Encyclopedia* (online): "Accident," "Actus et Potentia," "Aristotle," "Cause," "Essence and Existence," "Form," "Matter," "Materialism," "Nature," "Plato and Platonism," "Science and the Church," "Substance," and "Teleology."
- Chenu, Marie Dominique. *Nature, Man, and Society in the Twelfth Century; Essays on New Theological Perspectives in the Latin West*. Toronto: University of Toronto Press, Medieval Academy of America, 1997.
- Collingwood, R.G. *The Idea of Nature*. Oxford: Oxford University Press, 1944; Westport, CT: Greenwood Press, 1986.
- Dahlstrom, Daniel. *Nature and Scientific Method*. Washington, DC: Catholic University of America Press, 1991.
- De Lubac, Henri. *Brief Catechesis on Nature and Grace*. San Francisco: Ignatius, 1984.

- Gilson, Etienne. *The Christian Philosophy of St. Thomas Aquinas*. 2nd edition. Notre Dame, IN: University of Notre Dame Press, 1994.
- Hasting, Richard F. *Final Causality in Nature and Human Affairs*. Washington, DC: Catholic University of America Press, 1997.
- Jaki, Stanley L. *Science and Creation*. Edinburgh: Scottish Academic Press, 1986.
- Kass, Leon. *Toward a More Natural Science: Biology and Human Affairs*. New York: Free Press, 1985.
- Koren, Henry J. *Readings in the Philosophy of Nature*. Westminster, MD: Newman Press, 1958.
- _____. *An Introduction to the Philosophy of Nature*. Pittsburgh, PA: Duquesne University Press, 1960.
- Lang, Helen S. *The Order of Nature in Aristotle's Physics: Place and the Elements*. Cambridge; New York: Cambridge University Press, 1988.
- Lear, Jonathan. *Aristotle: The Desire to Understand*. Cambridge; New York: Cambridge University Press, 1988.
- Leclerc, Ivor. *The Philosophy of Nature*. Washington, DC: Catholic University of America Press, 1986.
- Maritain, Jacques. *The Philosophy of Nature*, translated by Imelda C. Byrne, to which is added Maritain's philosophy of the sciences, by Yves R. Simon. New York: Philosophical Library, 1951.
- Melsen, Andrew G.M., van. *Physical Science and Ethics: A Reflection on the Relationship between Nature and Morality*. Pittsburgh, PA: Duquesne University Press, 1967.
- Randall, John Hermann. *Aristotle*. New York: Columbia University Press, 1960.
- Rizzi, Anthony. *The Science Before Science: A Guide to Thinking in the 21st Century*. Baton Rouge, LA: Institute for Advanced Physics Press, 2004.
- Simon, Yves Rene. *The Great Dialogue of Nature and Space*. Albany, NY: Magi Books, 1970.
- *Stanford Encyclopedia of Philosophy* (online): "Aristotle," "Aristotle on Causality," and "Aristotle's Natural Philosophy."
- Thomas Aquinas, St. *Commentary on Aristotle's Physics*. Translated by Richard J. Blackwell. London: Routledge & Kegan Paul, 1963.
- Toulmin, Stephen Edelston. *The Return to Cosmology: Postmodern Science and the Theology of Nature*. Berkeley, CA: University of California Press, 1982.

CLASS TOPICS AND ASSIGNED READINGS

1. **Topic:** What is Nature? Major themes in natural philosophy: **Lecture**.
2. **Topic:** Fundamental concepts of nature; **Reading Assignment:** (a) *Modeling*, pp. 118-126 on knowledge, sensation, perception; pp. 131-139 on concepts; pp. 170-173 on sciences; pp. 300-308 on the demonstrative regress; (b) *Elements*, sec. 2 on logic; sec. 8 on predicables; sec. 9 on categories; sec. 12 on demonstration; sec. 13 on science; sec. 37 on knowledge.

3. **Topic:** Nature – The inner dimension; **Reading Assignment:** (a) *Modeling*, pp. 3-7 on causality; pp. 7-18 on the four causes in nature; pp. 22-31 on the inner dimension, the individual natural body; (b) *Elements*, sec. 15 on philosophy of nature; sec. 16 on matter and form; sec. 17 on nature; sec.34 on substance and accidents; sec. 35 on causality and its kinds.
4. **Topic:** Nature’s powers and natural kinds; **Reading Assignment:** (a) *Modeling*, pp. 31-34 on modeling various natures; pp. 134-135 on human cognitive powers; pp. 180-185 on human powers in operation; p. 38-45 on the elements; pp. 45-73 on modeling inorganic natures; (b) *Elements*, sec. 24 on sensation and perception; sec. 25 on intellectuion; secs. 26-27 on appetite and sensitive appetites; sec. 28 on volition; sec. 29 on man; sec. 22 on life and soul.
5. **Topic:** Nature’s property – motion or change; **Reading Assignment:** (a) *Modeling*, pp. 76-97 on plant natures and their activities; pp. 97-113 on animal natures and their activities; (b) *Elements*, sec. 18 on motion; sec. 66 on philosophy of science; sec. 67 on methodological concepts; sec. 68 on physical sciences.
6. **Topic:** Nature’s First Unmoved Mover; **Reading Assignment:** (a) *Modeling*, pp. 359-363, 406-409 on Newton on the nature and cause of gravity; (b) *Elements*, sec. 20 on the First Unmoved Mover; sec. 41 on natural theology; sec. 43 on proofs of God’s existence; sec. 47 on divine causality.
7. **Topic:** Miscellany: (a) Darwin & Evolution, (b) the Galileo affair; **Reading Assignment:** handouts.