

**GEC Rationale  
For  
Philosophy 280: Metaphysics, Religion, and Magic in the Scientific Revolution**

GEC Category: 3. Historical Study

**Goals:**

History courses develop students' knowledge of how past events influence today's society and help them understand how humans view themselves.

**Expected Learning Outcomes:**

1. Students acquire a perspective on history and an understanding of the factors that shape human activity.
2. Students display knowledge about the origins and nature of contemporary issues and develop a foundation for future comparative understanding.
3. Students think, speak, and write critically about primary and secondary historical sources by examining diverse interpretations of past events and ideas in their historical contexts.

(a) How do the course goals address the general and specific expected learning outcomes above?

- students will develop knowledge of the factors in the early-modern era in Europe that influenced the development of natural science
- students will come to see how science came to distinguish itself from the study of magic
- students will think, speak, and write critically about primary sources from the scientific revolution, especially the writings of Descartes and the Leibniz/Clarke correspondence
- students will think, speak, and write critically about secondary sources regarding the scientific revolution

(b) How do the assigned readings address the general and specific expected learning outcomes above? (Bibliographic information is sometimes not enough for faculty outside the discipline to determine the content and relevance of texts to a specific course.)

- the writings selected from Descartes' work highlight his thinking as a natural philosopher, especially his thinking about matter, motion, and causation, and thereby contribute to student understanding of the factors that shaped the scientific revolution and the demarcation of science
- the writings selected from the Leibniz/Clarke correspondence highlight the clash between Newtonian thinking (represented by Clarke) vs. Leibnizian thinking on such key issues as gravity and mechanism, and thereby contribute to student understanding of the factors that shaped the scientific revolution and the demarcation of science

- similar points hold for the readings from Galileo, Bacon, Boyle

(c) How do course topics address the general and specific expected learning outcomes above?

- the topic of the transition from Aristotelian (and Ptolemaic) to Galilean thinking about the heavens illustrates the intellectual basis of the scientific revolution
- the topics of matter, motion, and force illustrate the development of modern scientific thinking about how causes and effects can be propagated, which in turn separated off scientific from magical thinking; considering these topics thus gives students insight into both the historical development of this separation and its possible applications in contemporary contexts

(d) How do the written assignments address the general and specific expected learning outcomes above? Specifically, explain: how students gain significant writing experience and other related skills involving effective written and oral communication; how the course includes opportunities for feedback and revision; how students are encouraged to develop information literacy.

- the one term paper will be substantial enough (2500 words; ~10 pages) to contribute significant writing experience
- required class discussion will contribute to developing skills in oral communication
- students will get feedback on their interpretations during class discussion
- students will also get feedback through comments on their (long-answer format) midterm
- students will also get feedback and a chance to revise a first draft for their term papers
- students writing their term paper will be encouraged to seek online resources (especially Philosopher's Index); students will also be encouraged to use Carmen for various course functions

(e) How will students sharpen communication skills through the preparation of essay exams and papers and through participation in discussions in this course?

- students will sharpen communication skills through participating in interpretative and evaluative discussions of the main texts
- students will write long-answer format midterms
- students will also write a substantial (2500 word) term paper that will sharpen communication skills, especially for those who write a first draft

(f) How does the course aim to sharpen students' response, judgment, and evaluation skills?

- students will sharpen their responses to philosophical work through reading the assigned texts with a critical eye

- students will be engaged in regular discussion about how to interpret the texts being read, and discussion of the quality of the arguments that are discovered in these texts
- students will sharpen their judgment and evaluation skills in preparing to answer long-format exam questions, and while writing answers to such questions
- students will sharpen these skills also through writing their term paper, taking into account primary sources, class lectures, and perhaps other materials