EARLY MODERN SCIENCE EXAM:

Write on TWO of the following questions (2 hours per question). Be specific about historical episodes and evidence and include reflections on the relevant historiography of the topic. Take care to avoid overlap in your choice of examples and evidence for your two essays.

1. Newton’s intellectual interests were so vast as to constitute separate research agendas for today’s scholars: Newton’s alchemy, Newton’s mechanics, optics, etc. Choose three areas of his life’s work, describe and discuss them, and then discuss how they were interrelated.

2. A considerable body of scholarship about science in the early modern period has moved away from analysis of intellectual and social elites to uncovering the practices of many other sorts of people, and their contributions to the making of the scientific revolution. Commerce and material culture have become important frameworks in the historiography. Using several examples from different contexts, discuss this shift in our understanding of the development of science. How do some of these recent authors relate their research agendas to the story of the scientific revolution?

3. Copernicanism posed a threat to Roman Catholic orthodoxy in the seventeenth century, while in the same century all devout Christians looked with suspicion on the mechanical philosophy because of its heretical possibilities. Discuss two cultural contexts in the period where these tensions rose to prominence.

4. Today the history of science and the history of technology have become separate disciplines, with separate journals, conferences, etc. How would you characterize the relationship between science and technology in the eighteenth century? To support your answer, analyze a few examples from economic, or military, or cultural history.

5. Experiments provided a new way of knowing about the natural world, starting (roughly speaking) in the 17th century. What issues were at stake as experimenters argued for the validity, and even the superiority, of knowledge generated by experiments? Take examples from different national settings to show how arguments about experiment played into attempts to define a methodology for science.

6. The mechanical philosophy took shape in the 17th century and became commonplace in the 18th century. Discuss the views of two of the founders of mechanical philosophy, then address Newton’s modification of mechanism (as seen in his celestial dynamics) and conclude by discussing two 18th-century proponents. Take your examples from any European setting or from the American colonies.

7. What place does the study of curiosities have in the history of science in the early modern
period? How can the expanding knowledge of living things from all over the world be fit into a narrative of the development of scientific knowledge? Or, to put this slightly differently, what place does the study of the living world have in the history of life sciences in the 17th and 18th centuries?