

Philosophy of Space and Time (graduate level)

Instructor: Shahin Kaveh

Email:

Office: Room ---, hours: ---

Phone:

Class schedule: ---

Class location: ---

Course Description:

Western philosophy and western science are both justifiably traced back to ancient Greece. However, what is often overlooked is that the question that gave birth to philosophy is the very question that gave birth to science: what are change and motion, and how are they possible? This seemingly obscure question captivated the minds of many philosophers and led to interrelated questions regarding the nature of space, time, matter, and void. Is it possible for there to be space without any matter occupying it? If yes, how can nothingness exist? If no, how can anything move at all given that the entire space is filled up? As we will see in this course, not only did these somewhat silly questions drive early modern scientists such as Descartes and Newton to their incredible discoveries, but they have also continued to fuel scientific investigation through the 20th century and to this day. We will survey this fascinating journey in this class.

Course Schedule:

Week 1: Leucippus, Democritus, and Epicurus void, motion, and change

Week 2: Aristotle on place, time and void

Week 3: Galileo on space and time

Week 4: Descartes on space and matter

Week 5: Charleton on place and time

Week 6: Newton's *De Gravitatione*

Week 7: Newton's *Principia*

Week 8: The Leibniz-Clarke Correspondence I

Week 9: The Leibniz-Clarke Correspondence II

Week 10: Kant on the nature of space and time

Week 11: Poincaré's *Science and Hypothesis*

Week 12: Einstein's *Geometry and Experience*

Week 13: Reichenbach's *Philosophy of Space and Time*