

# Introduction to Ancient Greek & Roman Science

## Instructors:

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**Office Hours:** by appointment

**Class Hours and Room:** TTh 12:00 PM - 01:15 PM – Bloomberg 274

## Course Description

This course is an introduction to the world of Ancient Greek and Roman science by four different instructors. We will cover a wide range of ideas developed over almost a millennium, while focusing on cosmology and earth science, biology, and medicine.

We will study how knowledge was shared in the ancient Mediterranean and explore its importance in shaping cultures of knowledge and traditions of scientific thought.

Along the way, we want to take our topic as a chance to ask some of the crucial questions of the history and philosophy of science: What is science, how does science emerge, who does science and for what? How can we talk about historic ideas in a more fruitful way than in simple terms of whether they turned out to be “right” or “wrong.”

No knowledge of Greek or Latin is required. All texts will be provided online.

## Learning Outcomes

By the end of this course, students

- have a thorough understanding of the development of scientific ideas in antiquity
- developed the ability to analyze historical ideas and concepts on a broader basis than just by whether they proved to be “true” or “false” in hindsight
- critically examined the social and historical conditions that shape scientific thought
- have practiced academic and critical writing

## Assignments & Grading

Attendance, participation, and preparation are mandatory, and make up the largest part of the grade.

Each instructor will teach one unit of the class. There will be one quiz and one short essay assignment for each unit.

### Grading Criteria:

Grades will be determined by a point system.

Participation/Attendance: 170 pts  
Three Quizzes: 30 pts each  
Three Essays: 30 pts each

340-350	A+	4.00
325-339	A	4.00
315-324	A-	3.70
305-314	B+	3.30
290-304	B	3.00
280-289	B-	2.70
270-279	C+	2.30
255-269	C	2.00
245-254	C-	1.70
235-244	D+	1.30
220-234	D	1.00
210-219	D-	0.70
<210	F	0.00

## Schedule

<b>Week 1</b>	Introduction
Session 1:	Styles of inquiry: myth and 'science' in the ancient Greek world
Session 2:	Cosmogony: from chaos to cosmos
<b>Week 2</b>	The 'Cosmos's
Session 1:	Cosmic structures
Session 2:	Macrocosm/ microcosm
<b>Week 3</b>	What is the World like?
Session 1:	<u>Underlying Realities</u>  Materials: <ul style="list-style-type: none"><li>• Excerpts of Presocratics</li></ul>
Session 2:	<u>Aristotle's Life and Work</u>  Materials:

	<ul style="list-style-type: none"> <li>Barnes, Jonathan. "Chapter 1: The Man and his Work." In <i>Aristotle: A Very Short Introduction</i>. Very Short Introductions 32. Oxford; New York: Oxford University Press, 2000. (p. 1-6)</li> </ul>
<b>Week 4</b>	Aristotle
Session 1:	<p><u>Aristotle's Physics (Causes &amp; Change)</u></p> <p>Materials:</p> <ul style="list-style-type: none"> <li>Aristotle, <i>Physics</i> (excerpts)</li> <li>Barnes, Jonathan. "Chapter 11: Change." In <i>Aristotle: A Very Short Introduction</i>. Very Short Introductions 32. Oxford; New York: Oxford University Press, 2000. (p. 75-82)</li> <li>Barnes, Jonathan. "Chapter 12: Causes." In <i>Aristotle: A Very Short Introduction</i>. Very Short Introductions 32. Oxford; New York: Oxford University Press, 2000. (p. 83-91)</li> </ul>
Session 2:	<p><u>What is a 'Natural Science'?</u></p> <p>Materials:</p> <ul style="list-style-type: none"> <li>Aristotle, <i>Parts of Animals</i>, 1</li> <li>Armand Leroi on Aristotle's Biology (2020) (video)</li> </ul>
<b>Week 5</b>	Classical Greek Medicine – The Hippocratics
Session 1:	<p><u>Rationalism vs. Folklore, Science vs. Religion</u></p> <p>Materials:</p> <ul style="list-style-type: none"> <li>Excerpts of <i>On the Sacred Disease</i></li> <li>Lloyd, Geoffrey. <i>In the Grip of Disease: Studies in Greek Imagination</i>. Oxford: Oxford University Press, 2003 (pp. 43-50)</li> </ul>
Session 2:	<p><u>The Hippocratic Body: Humoral Theories – The Seat of the Mind– Gender</u></p> <p>Materials:</p> <ul style="list-style-type: none"> <li>Excerpts of <i>On the Nature of Man</i>, <i>On the Sacred Disease</i>, <i>On the Diseases of Young Girls</i></li> <li>Holmes, Brooke. "The Body." In <i>The Cambridge Companion to Hippocrates</i>. Ed. P. Pormann. Cambridge: Cambridge University Press, 2018. (pp. 63-88)</li> </ul>
<b>Week 6</b>	Classical Greek Medicine – The Hippocratics II
Session 1:	<p><u>Ancient Psychopathology – Mental and Emotional Disorders</u></p> <p>Materials:</p> <ul style="list-style-type: none"> <li>Excerpts of <i>Epidemics</i></li> </ul>

	<ul style="list-style-type: none"> <li>Thumiger, Chiara. "Ancient Greek and Roman Traditions." In <i>The Routledge History of Madness and Mental Health</i>. Ed. G. Eghigian. Routledge: New York - London. (pp. 42-61)</li> </ul>
Session 2:	<p><u>The Doctor- Patient Relationship</u></p> <p>Materials:</p> <ul style="list-style-type: none"> <li>Excerpts of <i>Epidemics</i></li> <li>Thumiger, Chiara. "Doctors and Patients." In <i>The Cambridge Companion to Hippocrates</i>. Ed. P. Pormann. Cambridge: Cambridge University Press, 2018 (pp. 263-276)</li> </ul>
<b>Week 7</b>	Medical Science: Key Themes, Ancient and Modern
Session 1:	<p><u>Distributed Cognitivism and the Feeling Body</u></p> <p>Materials:</p> <ul style="list-style-type: none"> <li>Excerpts of <i>On the Sacred Disease</i>, <i>On Regimen</i>, <i>Epidemics</i></li> <li>Kazantzidis, George. "Cognition, Emotions and the Feeling Body in the Hippocratic Corpus." In <i>Distributed Cognition in Classical Antiquity</i>. Ed. M. Anderson, D. Cairns, and M. Sprevak. Edinburgh: Edinburgh University Press, 2019. (pp. 136–153)</li> </ul>
Session 2:	<p><u>Ethics</u></p> <p>Materials:</p> <ul style="list-style-type: none"> <li>The Hippocratic <i>Oath</i></li> <li>Leven, Karl-Heinz. "Ethics and Deontology." In <i>The Cambridge Companion to Hippocrates</i>. Ed. P. Pormann. Cambridge: Cambridge University Press, 2018. (pp. 169-177)</li> </ul>
<b>Week 8</b>	Hellenistic Science
Session 1:	<p><u>The Mouseion and the Library in Alexandria: Instutionalizing Science</u></p> <p>Materials:</p> <ul style="list-style-type: none"> <li>Excerpts of the <i>Letter of Aristeas</i></li> <li>Thomas, J. J. Art, <i>Science, and the Natural World in the Ancient Mediterranean, 300 BC to AD 100</i>. Oxford: Oxford University Press, 2021. (pp. 5-18)</li> </ul>
Session 2:	<p><u>Under the Shadow of Peripatetic Natural Science: Knowledge and Wonder Culture</u></p> <p>Materials:</p> <ul style="list-style-type: none"> <li>Excerpts of the ps.-Aristotelian <i>Mirabilia</i></li> </ul>

	<ul style="list-style-type: none"> <li>Geus, Klaus and King, G. Colin. "Paradoxography." In <i>The Oxford Handbook of Science and Medicine in the Classical World</i>. Ed. P. T. Keyser and J. Scarborough. New York: Oxford University Press, 2018. (pp. 431-44)</li> </ul>
<b>Week 9</b>	SPRING BREAK – NO CLASSES
<b>Week 10</b>	Hellenistic Science II
Session 1:	<p><u>Zooming Out: Mapping the World through the Science of Geography</u></p> <p>Materials:</p> <ul style="list-style-type: none"> <li>Geus, Klaus. "Space and Geography." In <i>A Companion to the Hellenistic Culture</i>. Ed. A. Erskine. Malden / Oxford: Wiley, 2009. (pp. 232-45)</li> </ul>
Session 2:	<p><u>Zooming In: Dissection, Anatomy and Mechanics</u></p> <p>Materials:</p> <ul style="list-style-type: none"> <li>Kazantzidis, George. "The Beauty that Lies Within: Anatomy, Mechanics and <i>Thauma</i> in Hellenistic Medicine." In <i>Body and Machine in Classical Antiquity</i>. Ed. M. Gerolemou and G. Kazantzidis. Cambridge: Cambridge University Press, 2023. (pp. 218-44)</li> </ul>
<b>Week 11</b>	Roman Science
Session 1:	<p><u>Traditionalism and Originality in Roman Science</u></p> <p>Materials:</p> <ul style="list-style-type: none"> <li>Excerpts of Cato's <i>On Agriculture</i></li> <li>Thibodeau, Philip. "Traditionalism and Originality in Roman Science." In <i>The Oxford Handbook of Science and Medicine in the Classical World</i>. Ed. P. T. Keyser and J. Scarborough. New York: Oxford University Press. (pp. 593-613)</li> </ul>
Session 2:	<p><u>Ordering Knowledge, Ordering the World</u></p> <p>Materials:</p> <ul style="list-style-type: none"> <li>Excerpts of Varro's <i>On the Latin Language</i></li> <li>Lehoux, Daryn. <i>What did the Romans Know? An Inquiry into Science and Worldmaking</i>. Chicago-London: University of Chicago Press, 2012. (pp. 1-17)</li> </ul>
<b>Week 12</b>	Roman Science II
Session 1:	<p><u>Encyclopedism and the Sciences</u></p> <p>Materials:</p> <ul style="list-style-type: none"> <li>Excerpts of Celsus' <i>On Medicine</i> and Pliny's <i>Natural History</i></li> </ul>

	<ul style="list-style-type: none"> <li>• König, Jason and Woolf, Greg. "Encyclopaedism in the Roman Empire." In <i>Encyclopaedism from Antiquity to the Renaissance</i>. Ed. J. König and G. Woolf. Cambridge: Cambridge University Press, 2013. (pp. 37-52)</li> </ul>
	<p><u>Encyclopedism and the Science of Knowing Everything</u></p> <p>Materials:</p> <ul style="list-style-type: none"> <li>• Excerpts of Pliny's <i>Natural History</i></li> <li>• Murphy, Trevor. <i>Pliny the Elder's Natural History: The Empire in the Encyclopedia</i>. Oxford: Oxford University Press, 2004. (pp. 29-48)</li> </ul>
<b>Week 13</b>	Bodies and Technologies I
Session 1:	<p><u>Technical Automatisms and the Body</u></p> <p>Materials:</p> <ul style="list-style-type: none"> <li>• Homer, <i>Iliad</i> 18.410-617</li> <li>• Holmes, Brooke. <i>The Symptom and the Subject: The Emergence of the Physical Body in Ancient Greece</i>, Princeton, NJ: Princeton University Press, 2010. (pp. 142-7)</li> <li>• Gerolemou, Maria. <i>Technical Automation in Classical Antiquity</i>. Bloomsbury: London, 2023. (chapter 1)</li> </ul>
Session 2:	<p><u>Hippocratic Machines</u></p> <p>Materials:</p> <ul style="list-style-type: none"> <li>• <i>On Joints</i> ch. 43, 47, 72</li> <li>• Gerolemou, Maria. "Technical Physicians and Medical Machines in the Hippocratic Corpus." In <i>Body and Machine in Classical Antiquity</i>. Ed. M. Gerolemou and G. Kazantzidis. Cambridge: Cambridge University Press, 2023. (pp. 107-125)</li> </ul>
<b>Week 14</b>	Bodies and Technologies II
Session 1:	<p><u>Military Machines and the Body</u></p> <p>Materials:</p> <ul style="list-style-type: none"> <li>• Euripides <i>Heracles</i> 140-203</li> <li>• Hero of Alexandria, <i>Belopoeica</i> ch. 75, 81</li> <li>• Hamilton, R. "Slings and Arrows: The Debate with Lycus in the Heracles." <i>Transactions of the American Philological Association</i> 115, 1985. (pp. 19-25)</li> <li>• D'Amato, R. "Arms and Weapons." In <i>A Companion to Science, Technology, and Medicine in Ancient Greece and Rome</i> (2 vols). Ed. G. L. Irby. Chichester, UK, 2016. (pp. 801-816)</li> </ul>
Session 2:	<u>Cosmetic Technologies and the Body</u>

	<p>Materials:</p> <ul style="list-style-type: none"> <li>• Philostratus, <i>Letter 22</i></li> <li>• Athenaeus, <i>Depnosophistae</i> 1.32</li> <li>• Johnson, M. "Mansplaining with Ovid: <i>Ars—cultus—munditia</i> and the 'Natural' Body." In <i>Body Technologies in the Greco-Roman World: Technosôma, Gender and Sex</i>. Ed. M. Gerolemou and G. Chesi. Liverpool: Liverpool University Press, 2023. (pp. 161-180).</li> <li>• Gerolemou, Maria. "Want to Look Younger and Stronger? Cosmetic Hot Baths in Classical Antiquity." In <i>Body Technologies in the Greco-Roman World: Technosôma, Gender and Sex</i>. Ed. M. Gerolemou and G. Chesi. Liverpool: Liverpool University Press, 2023. (pp. 145-60).</li> </ul>
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Integrity:

*The strength of the university depends on academic and personal integrity. In this course, you must be honest and truthful. Ethical violations include cheating on exams (quizzes and tests), plagiarism, reuse of assignments, improper use of the Internet and electronic devices, unauthorized collaboration, alteration of graded assignments, forgery and falsification, facilitating academic dishonesty, and unfair competition. For more information, you may call the Office of the Dean of Students at 410-516-8208 or email at [integrity@jhu.edu](mailto:integrity@jhu.edu).*

Disabilities:

*If you require accommodation for any form of disability, including extra time on tests, please get in contact with Student Disability Services ([studentdisabilityservices@jh.edu](mailto:studentdisabilityservices@jh.edu)).*

Mental Health:

*We in the Classics Department and the University as a whole are aware that many students experience anxiety, depression, and other emotional challenges during the course of the semester. If you are experiencing difficulties along these lines and would like to speak to a professional counselor, please visit the campus Counseling Center. More information is available on the Counseling Center's website: <https://studentaffairs.jhu.edu/counselingcenter/>.*

*If you are struggling with anxiety, stress, depression or other mental health related concerns, please consider visiting the JHU Counseling Center. If you are concerned about a friend, please encourage that person to seek out their services. The Counseling Center is located at 3003 North Charles Street in Suite S-200 and can be reached at 410-516-8278 and online at <http://studentaffairs.jhu.edu/counselingcenter/>*