Fall 2016

**HST 205: History of Science I: Antiquity to the Scientific Revolution**
MWF 1:00-1:50pm (MO 201)

**Instructor:**
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Office Hours: M/W 12pm-1pm

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**Description**

*History of Science I: Antiquity to the Scientific Revolution* is the first half of a two-semester survey on the history of science. In this course we will go back to some of the earliest beginnings of what we might call "science," looking at the way in which early cultures and people began to look at the world systematically. In doing so, we will look at the rise of natural philosophy in the ancient Mediterranean, the growth and development of medieval learning, and the emergence of the mechanical philosophy of the scientific revolution in the 16th and 17th centuries. We'll also delve into the changing ideas of medicine and health during these periods, while also paying attention to the effect of new technologies. Considering that this course covers multiple millennia, we will be able to touch on only some of the most important points, but in all instances we will consider the social, cultural and intellectual contexts in which these ideas and people emerged. Overall, we'll look at the parts of history that undergird our current understanding of science, not only investigating the historical seeds of how we think today, but also coming to understand how much our thinking about the natural world is influenced by society and culture.

Much of the course will be in a lecture format, but there will be time during each week for discussion. We will be looking at the context in which many of these ideas developed, but we will also analyze the content of the science and look at specific texts ourselves. This means that we will sometimes discuss complex ideas in order to understand why they were such a radical departure from the past and why they transformed the understanding of the world going forward.

**Readings and Course Materials**

**Required Books:** All required texts are available for purchase at the campus bookstore.


**Further Course Materials:** There will be several weeks in which we will read excerpts from primary sources. All of these readings can be found on the course website.
Student Learning Outcomes

This course is designed to help students:
- identify important ideas and people in the development of natural philosophy, astronomy, and medicine from antiquity to the Scientific Revolution
- contextualize scientific ideas within their social, political, and cultural contexts
- examine the way science can have profound impacts on social and cultural attitudes
- evaluate and analyze relevant source material

Course Expectations and Policies

Assignments and Grading

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<tr>
<th>Assignment</th>
<th>Percentage</th>
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<td>Exam 1</td>
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<td>Exam 3</td>
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<td>Papers (2 @ 10% each, 1 @ 15%)</td>
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<tr>
<td>Class Participation</td>
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Exam Format
In general, there will be two sections to each exam. In the first section you will be asked to complete "identifications" (IDs) of five different items (which could be a person, concept, object, or something similar that can be summarized in one paragraph). In the second section you will have to answer an essay question. We will review the essential qualities of good IDs and essays throughout the semester, paying specific attention to the test format the class period before the exam when we dedicate class time to review.

Papers
We will be reading several primary source texts that will relate to many of the topics that we discuss in class. For three of these readings you will be asked to write responses to essay questions that will require you to incorporate your analysis of the text and the context provided by lectures and readings. These will be take-home assignments and should be typed responses.

Participation
10% of your grade is determined by your participation in class. You will be assessed through a combination of written responses and quality participation in both large and small group discussions. Quality participation in groups includes making thoughtful comments, helping the group keep on task, and contributing to good group dynamics. There also will be opportunity for participation during lecture. Note that you can lose participation points for problematic or disruptive behavior that obstructs discussion in some way. That includes, but is not limited to, behaviors such as abusive or intimidating comments, threatening demeanor, dominating discussion, and distracting behaviors such as playing games on your computer/phone.

Attendance Policy
For most of life’s activities, there are consequences for not being present. So it is in this class as well. You are allowed 4 absences before you begin losing points. For every absence after 4, you will lose half of your attendance grade. Thus, if you miss 6 classes you will lose all the points from your attendance grade, which is 10% of your overall class grade. If you miss more than 6 classes, you will begin losing points from your participation grade at the same rate (half per day missed). I do allow for excused absences, but only under a limited number of circumstances such as missing class for religious
observances and official university obligations, and you **must let me know ahead of time**. Please note that I will not excuse an absence because you were sick and supplied a doctor’s note unless that illness requires you to miss significant class time. In that case, you should be contacting me to discuss your options (and doing so with all your professors). **This means that you should use your allotment of absences wisely.**

**Missed and Late Work Policy**

**In-class assignments:** There will be no opportunity for you to make up any work that we do in class. In-class work will be used to assess participation and you cannot get participation credit if you are not in class. If you have an excused absence from class, this will not affect your grade.

**Exams:** Make-up exams or rescheduling will be granted only in extreme circumstances. Exceptions will not be made for oversleeping, lack of preparation, or forgetfulness. Come talk to me at least 2 weeks in advance if you foresee a significant scheduling conflict that you would like to discuss.

**Out-of-class assignments:** Late work will be docked 5% for every 12 hours that it is late.

**Plagiarism and Academic Misconduct:**

Knowingly presenting another person's language or ideas as your own constitutes plagiarism. **Don't do it.** If you are caught plagiarizing or cheating in any way you will at the very least be failed for the assignment, and depending on the level of the transgression you could receive an "F" for a final grade and be referred to Office of the Dean of Students (ODOS). Plagiarism, the theft of intellectual property, is a serious crime. If you have any questions, talk to me. You can also find additional information at the university's website: [http://uncw.edu/ulc/writing/avoidplagiarism.html](http://uncw.edu/ulc/writing/avoidplagiarism.html)

**Student Roles and Expectations**

I expect that you will treat this class as a priority in your life, which means that you should make your best effort to attend every class and to turn in assignments on time. It is also your responsibility to communicate to me any issues you may have concerning disability (see the Office of Disability for more information) and to keep me informed of relevant situations (for instance, missing class for religious observances). Furthermore, I expect that your demeanor in class towards the instructors and other students will be respectful at all times and that you will uphold the UNCW honor code ([www.uncw.edu/odos/honorcode](http://www.uncw.edu/odos/honorcode)). Other than that, if you come to class with an open and inquisitive mind, I expect that you will gain a lot from this class.

**Instructor Roles and Expectations**

You can expect me to be respectful, honest, and open-minded, both in class and outside of it. I will also give you critical and timely feedback on all your work and will always make myself available outside of class if you wish to discuss any university or class-related issues.
Proposed Class Schedule

Week 1 – Introduction + The Earliest Understandings of the Natural World
   Wednesday, August 17th – Introduction
   Friday, August 19th – Lindberg Chp 1: Science Before the Greeks

Week 2 – Plato and the Early Greek Cosmos
   Monday, August 22nd – "Homeric Hymn to Demeter" (Blackboard); Lindberg, pp. 21-34
   Wednesday, August 24th – Lindberg pp. 34-44
   Friday, August 26th – Lindberg Chp 3: Aristotle's Philosophy of Nature

Week 3 – Aristotle and Greek Natural Philosophy
   Monday, August 29th – excerpts from Plato and Aristotle, (Blackboard)
   Wednesday, August 31st – Lindberg Chp 6: Greek and Roman Medicine
   Friday, September 2nd – Hippocrates, *Airs, Waters, and Places* (Blackboard)

Week 4 – Greek and Roman Science and Medicine
   Monday, September 5th – LABOR DAY: NO CLASS
   Wednesday, September 7th – Lindberg Chp 4: Hellenistic Natural Philosophy and p. 82-105
   Friday, September 9th – Chp. 7: Greek + Roman Science

   Due Friday, Sept. 9th in class – Primary Source Paper 1 (Hippocrates)

Week 5 – Science and Medicine Before the Fall of Rome
   Monday, September 12th – Lucretius, Galen, and Sacrobosco excerpts (Blackboard)
   Wednesday, September 14th – Review
   Friday, September 16th – Exam 1

Week 6 – Islamic Science
   Monday, September 19th – Science, Technology, and Medicine in China
   Wednesday, September 21st – Chp 8: Islamic Science
   Friday, September 23rd – Avicenna (Web)

Week 7 – Revival and Recovery in Medieval Science and Medicine
   Monday, September 26th – Lindberg Chp 9: The Revival of Learning in the West
   Wednesday, September 28th – Chp 10: Recovery of Greek and Islamic Science
   Friday, September 30th – Discussion: The Dark Ages?

Week 8 – Medieval Science and Medicine
   Monday, October 3rd – Lindberg Chp 13: Medieval Medicine and Natural History
   Wednesday, October 5th – Black Death Readings (Blackboard)
   Friday, October 7th – Fall Break: No Class

Week 9 – Gaining Knowledge in the Renaissance
   Monday, October 10th – Long, Introduction; Dear, Chp 1
   Wednesday, October 12th – Long, Chp 2
   Friday, October 14th – Dear, chp 2

   Due Friday, October 14th in class – Primary Source Paper 2 (Black Death)
Week 10 – Craft Knowledge and Revolutions
  Monday, October 17th – Dear, chp 3
  Wednesday, October 19th – Long, chp 3
  Friday, October 21st – Bacon Readings (Blackboard)

Week 11 – Early Modern Science
  Monday, October 24th – Long, chp 4
  Wednesday, October 26th – Review and Discussion
  Friday, October 28th – Exam II

Week 12 – Cosmological Revolutions and Galileo
  Monday, October 31st – Dear, chp 4
  Wednesday, November 2nd – Dear, pp. 99-106 (Galileo section)
  Friday, November 4th – Galileo correspondence (Blackboard)

Week 13 – The Mechanical Philosophy
  Monday, November 7th – Galileo "Letter to the Grand Duchess" (Blackboard)
  Wednesday, November 9th – Dear, chp 5
  Friday, November 11th – Dear, pp. 106-126

Week 14 – Experiments and The Newtonian Revolution
  Monday, November 14th – Dear, chp 7
  Wednesday, November 16th – Readings from 17th Century Experiments (Blackboard)
  Friday, November 18th – Dear, chp 8

Week 15 – The Reception of Newton
  Monday, November 21st – Dear, conclusion
  Wednesday, November 23rd – THANKSGIVING BREAK
  Friday, November 25th – THANKSGIVING BREAK

Week 16 – Questioning the Revolution and Conclusion
  Monday, November 28th – Review and Wrap Up
  Wednesday, November 30th – Review and Wrap Up

  Due Wednesday, November 30th in class - Final paper

Final (3rd) Exam – Monday, December 5th 11:30-2:30

Dates to Remember:
Primary Source Paper 1 – 09/09
Primary Source Paper 2 – 10/14
Final Paper – 11/30

Exam 1 – 9/16
Exam 2 – 10/28
Exam 3 – 12/5