Introduction

This course will give insight into the way people in the past, roughly speaking from ancient times to the seventeenth century, viewed nature and tried to understand and explain it. In most cases, their ideas do not strike us as particularly “scientific”. Properly speaking, there was not such a thing as modern science in this period. In investigating nature, people did not just come up with different theories than the ones we are familiar with. They often were interested in completely different things and asked questions to which our answers would not have made sense.

The course offers not just a rehearsal of important discoveries - although these will inevitably turn up - but also aims to give insight into the genesis of modern scientific thinking and modern scientific practices. We are not just interested in how people found the “correct” answers, but also in their own way of thinking and how it came about that our present theories make sense to us at all.

General rules

Everyone is expected to keep up with the reading schedule and to participate in class discussion of the reading. Exams are given both over the assigned readings and over the information the instructor gives in class. If the students have missed a class, it is their responsibility to find out what has been taught or announced.

Messages will be send to your OU email account. If you do not use that account normally, please arrange for emails to be forwarded from that account ot the one you use.

It is the policy of the university to excuse the absence of students that result from religious observances and to provide without penalty for the rescheduling of examinations and additional required class work that may fall on religious holidays. Please see me in advance.

Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact me personally as soon as possible so that we can discuss accommodations necessary to ensure full participation and facilitate your educational opportunities.

Evaluation
There are 500 points to be earned in this course, in the following way:
Quizzes: 150 points
First (short) essay: 50 points
Two main essays, 100 points each: 200 points
Final exam: 100 points
Quizzes will be on a weekly bases, with in principle 10 points for each quiz. Instructions for essays will be given with the assignment of the first essay. The final exam is a take-home exam.

Class readings
- Plutarchus, from Life of Marcellus.
- Edward Grant, Physical science in the Middle Ages (New York etc. 1971) 20-36.
- Peter Harrison, ‘Fixing the meaning of Scripture. The Renaissance Bible and the origins of modernity’ (2002)
- William Harvey, An anatomical disputation concerning the movement of the heart and blood, translated by G. Whitteridge (Oxford etc. 1976) 74-77, 100-105.
- René Descartes, The world, chapters VI and VII
- Bernard Le Bovier de Fontenelle, Conversations on the plurality of worlds, translated by H.A. Hargreaves (Berkeley etc. 1990) 9-22.
- Thomas Kuhn, ‘Mathematical versus experimental traditions in the development of physical science’, in: Journal of interdisciplinary history 7 (1976) 1-31

Reading schedule. The schedule is subject to modification

<table>
<thead>
<tr>
<th>Jan</th>
<th>Date</th>
<th>Reading</th>
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<tbody>
<tr>
<td>16</td>
<td>Martin Luther King day, no class</td>
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<tr>
<td>18</td>
<td>Introduction</td>
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<tr>
<td>20</td>
<td>Newton, Mathematical principles</td>
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<tr>
<td>25</td>
<td>Descartes, The world</td>
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<td>27</td>
<td>Fontenelle, Conversations</td>
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<td>30</td>
<td>Aristotle, Physics</td>
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<td>First (short) essay due</td>
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<th>Febr</th>
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<tr>
<td>1</td>
<td>Aristotle, Historia animalium</td>
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<td>Barnes, Early Greek philosophy</td>
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<td>Hippocrates, Sacred disease</td>
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<td>Aristophanes, Clouds</td>
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<td>Plato, Republic</td>
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<td>15</td>
<td>Epicurus, Letter to Herodotus</td>
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<td>20</td>
<td>Hero, Pneumatics; Plutarch, Life of Marcellus</td>
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<td>22</td>
<td><a href="http://people.sc.fsu.edu/~dduke/models.htm">http://people.sc.fsu.edu/~dduke/models.htm</a></td>
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27  Grant, Physical science in the Middle Ages
29  Bartlett, The natural and the supernatural

March 2
5  Johnston, Mathematical practitioners
   Second essay due
7  Harrison, Fixing the meaning of scripture
9  
12  Copernicus, On the revolutions
14  
16  
19-23: Spring break
26  Galileo, Starry messenger
28  Finocchiaro, Galileo affair
30  

April 2  Gilbert, De magnete
4  Harvey, Motion of heart and blood
6  
9  (Descartes and mechanism)
11  t.b.a.
13  t.b.a.
16  http://www.newtonproject.sussex.ac.uk/prism.php?id=1
   Third essay due
18  Gascoigne, Natural philosophy
20  Wilson, Astronomy and cosmology
23 Kuhn, Traditions

25

27

30 t.b.a.

May 2 t.b.a.

4 t.b.a.