What do we know about the world and how have we come to construct that knowledge? To what extent is our current knowledge of the world shaped by past ways of knowing? This seminar will examine the history of scientific concepts regarding the natural world and the ways in which early modern Europeans came to develop, define, and deploy those ideas. We will not only consider European perspectives, but also examine how such ideas clashed and interacted with the views of the new societies that Europeans began to encounter during the early modern era.

Our wide-ranging investigation will lead us to a consideration of the ways in which European medical and scientific knowledge has been constructed, the blurred borders between magic and science, and the sometimes vexed relationship between scientific and religious authority. In addition, we will discuss the ways in which those disciplines that have come to be defined as rational and scientific, such as chemistry and astronomy, were founded in areas of inquiry now dismissed as superstitious “pseudo-sciences.” Discussion will be an integral part of our learning experience and all students are encouraged to raise issues for the class to debate.

As we consider how the story of the past is contested and written, we hope that you will increasingly appreciate the importance of close reading, critical thinking, and creative questioning. Furthermore, we expect that you will develop your ability to ask significant questions of historical evidence, to read and interpret primary and secondary source material, to recognize interpretive differences, and to express your ideas logically and concisely.

Requirements:
❖ Attendance at all class meetings and completion of all assigned reading before the
seminar begins. As the majority of our class time will be spent in discussions, the success of the course requires that each participant be ready to articulate and defend his or her ideas, as well as to listen to and work with the ideas of the other participants. Please let us know in advance if you will be absent. Class participation will be weighted at 40% of your final grade;

- **Four papers.** Four paper topics will be assigned over the course of the semester. Topics will be handed out a week in advance and must be emailed to both Professors Crowe and Mollenauer at or before the time indicated. Due dates are 1/29; 2/24; 3/18; and 5/2 (20% of final grade each).

- **Learn the vocabulary** found in your readings. If you do not know the meaning of a word that you encounter, please consult the online Oxford English Dictionary that is available through the Randall Library web site. There may be occasional vocabulary quizzes.

- **All papers** must be grammatically flawless with all words spelled correctly. Papers will be graded on both content AND grammar. As in all history classes, your ability to write clearly and convincingly will be heavily weighted.

- **Paper formatting** must also be correct; all papers must be paginated, footnoted, double-spaced, with 1" margins, and typed in 12-point font. For footnote styles, please follow Turabian's A Manual for Writers of Term Papers, Theses, and Dissertations. A useful guide can be found online: http://www.chicagomanualofstyle.org/tools_citationguide.html

**Policies:**

- **Each assignment** must be posted to the class BlackBoard shell at or before the exact time specified. After that time, it will be considered late. We do not accept papers left in our mailboxes nor sent via email.

- **You may rewrite** your papers. The final grade for the assignment will be an average of the two grades earned. A paper may be rewritten only once; rewrites can be submitted no more than two weeks after the first one is returned to you.

- **No extensions** will be granted unless you have spoken to Dr. Mollenauer or Dr. Crowe at least 24 hours before the due date and have satisfactorily explained why your assignment is delayed. If your paper is late because of your sudden illness, you must provide a note from your doctor or from UNCW Health Services.

- **Late papers** will lose one third of a grade for each day that they are overdue. After one week, the late paper will no longer be accepted and will be assigned a zero. Keep in mind, therefore, that even an “F” is a much higher numerical grade than a zero. Please be sure to keep an extra hard copy of your paper as well as an electronic one; if your paper is lost, you must have another to submit.

- **All submitted work** must be original and prepared for this course alone.

- **Students are** responsible for following UNCW’s policy on academic honesty: http://www.uncw.edu/policies/documents/03_100FINALHONORCODE_Aug2009.pdf. Failure to abide by the accepted standards of academic honesty will result in an F for the course. Be aware that university policy requires that any infraction of the honor code be reported to the Dean of Students.

- **We all have varying abilities;** we call carry various strengths and weaknesses. Some of these may be documented by the Office of Disability Services (2-7555). If so, please let us know as soon as possible in the semester. We are more than happy to provide any accommodations that have been determined by the student and the DS staff. With or without documentation, it is our intention to make this learning experience as accessible as possible. Please let us know now what we can do to maximize your learning potential, participation, and general access in this course. We are available to meet with you in
person or to discuss such things on email.

**On class participation:**

Participation in class discussions, aside from its intrinsic merits, is also a large percentage (40%) of your final grade. Because the great majority of our class time will be spent in discussions, the success of the course requires that each participant be ready to articulate and defend his or her ideas, as well as to listen to and work with the ideas of the other participants. Each member of the class is therefore responsible for the following:

► preparing questions; come to class with issues about the material already in mind;
► generating discussion; raise issues for other members to debate and be receptive to opinions which differ from your own; and
► augmenting discussion; respond to the comments of others with ideas that carry our discussions to a higher level.

**Matters of etiquette:**

**Email:** the best way to contact us outside of class or office hours is email. Please keep in mind that email sent to one of your professors should err on the side of formality. Therefore, always include a salutation ('Dear Dr. Crowe'), employ proper grammar, punctuation, and capitalization, and identify yourself and the course in which you are enrolled.

**Cell phones:** Please turn cell phones to silent and refrain from texting during seminar.

**Grade scale:**

For all papers as well as the final course grade, the grade scale is as follows:

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<thead>
<tr>
<th>Grade</th>
<th>Range</th>
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<tbody>
<tr>
<td>A</td>
<td>93-100</td>
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<tr>
<td>A-</td>
<td>90-92</td>
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<tr>
<td>B</td>
<td>83-86</td>
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<td>B-</td>
<td>80-82</td>
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<td>C</td>
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<td>C-</td>
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<td>67-69</td>
</tr>
<tr>
<td>F</td>
<td>0-59</td>
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</tbody>
</table>

**Required books: (available at the UNCW Bookstore)**

- Lawrence M. Principe, *The Secrets of Alchemy* (Chicago, 2013)
  ISBN: 9780226103792
  ISBN: 0521312027
  ISBN: 9780870716096
- Steven Shapin, *The Scientific Revolution* (Chicago, 1996)
  ISBN: 9780226750217
  ISBN: 9780879758547
  ISBN: 978-0226761305
  NB: This book is available free online as well.
- Mary Shelley, *Frankenstein or the Modern Prometheus (1818 text)* (Oxford, 2009)
SCHEDULE

The assigned reading must be finished before our weekly meeting. Do be sure to bring the day’s readings with you to class. Readings marked with an * * will be available through Dropbox.

Week 1: January 13
Introductions

Week 2: January 20
Ancient Science and Medicine


** Aristotle, On the Parts of Animals, Books 1 and 2, Translated by James Lennox (Clarendon Press, 2001)

** Plato, Excerpts from Timaeus in Malcom Oster, ed. Science in Europe, 1500-1800: A Primary Source Reader (Palgrave, 2002)


** Galen, “On the Causes of Disease,” in Mark Grant, Galen on Food and Diet (Routledge, 2000)

Week 3: January 27
Premodern Science and Medicine

Nancy G. Siraisi, Medieval and Early Renaissance Medicine: An Introduction to Knowledge and Practice (Chicago, 1990)
http://brego-weard.com/lib/b/Medieval_and_Early_Renaissance_Medicine_An_Int.pdf

PAPER 1 DUE 5 pm, FRIDAY January 29

Week 4: February 3
Magic

Richard Kieckhefer, Magic in the Middle Ages
Week 5: February 10
Witchcraft

Three 15th-Century Witchcraft Documents
http://www.fordham.edu/halsall/source/witches1.html

The Witch Persecutions at Bamberg (1628) and Wurtzberg (1629)
http://history.hanover.edu/texts/bamberg.html
http://history.hanover.edu/texts/wurz.html

The examination, confession, trial, and execution, of Joane Williford, Joan Cariden, and Jane Hott . . . (London, 1645)
http://ebooks.library.cornell.edu/cgi/t/text/text-idx?c=witch;cc=witch;view=toc;subview=short;idno=wt0044

http://www.historycooperative.org/journals/ahr/106.4/ah040101141.html

Week 6: February 17
Leprosy and the Black Death

** Luke Demaitre, Leprosy in the Premodern World, Chs. 2, 4, and 6

** Leprosy and the Case of King Baldwin IV of Jerusalem

** “Mass of Separation for Lepers”


Giovanni Boccaccio, “Introduction to the Decameron (c. 1350),”
http://www.fordham.edu/Halsall/source/decameronintro.asp

Descriptions of the Black Death in Padua and the Report of the Cause of the Plague by the Medical Faculty of the University of Paris, 1348
http://www.stanford.edu/class/history13/Readings/Horrox.htm

Week 7: February 24

PAPER 2 due in class, WEDNESDAY February 24

Week 8: March 2
Alchemy
Lawrence Principe, The Secrets of Alchemy

**Week 9: March 9: Spring Break**

**Week 10: March 16**
Making Science

Pamela O. Long, Artisans/Practitioners and the Rise of the New Sciences, 1400-1600

**PAPER 3 DUE 3:00 pm, FRIDAY March 18**

**Week 11: March 23**
Easter Break, no class

**Week 12: March 30**
Scientific Revolution

Steven Shapin, The Scientific Revolution

**Week 13: April 6**
Blood and its Metaphors

William Harvey, On the Motion of the Heart and the Blood in Animals

** Francis Bacon, “The Idols” (Aphorisms 39-68), Book I of the New Organon

**Week 14: April 13**
Stars of the Seventeenth Century

** Mario Biagioli, “Galileo the Emblem Maker” Isis 81 (1990): 230-259
** Stillman Drake, "Introduction" in Discoveries and Opinions of Galileo (Anchor Books 1957): 145-171


**Week 15: April 20**
Science in Fiction
Mary Shelley, Frankenstein

Week 16: April 27
Conclusions

FINAL PAPER DUE 3:00 pm, MONDAY May 2

Page 1 image:
A panorama of Andreas Vesalius’ “muscle men” from the Fabrica:
http://clinanat.com/images/MTD/LargeImages/musclemenpanorama2_lg.jpg