

Medieval Science & Medicine | HIST 300-001

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Office Hours: M 11-12; W 12-2

Syllabus online at <http://fredgibbs.net/courses/medieval-science-medicine>

Overview

COURSE DESCRIPTION

This course explores the nature of science and medicine in Western Europe roughly spanning 400–1400. After a brief introduction to the crucial contributions in natural philosophy and medicine from the classical world, we'll examine how various social, cultural, and institutional structures influenced medieval understandings of the world. In terms of specific topics, we'll look at cosmology, astronomy, astrology, alchemy, chemistry, natural history, physics, and philosophy. We'll also investigate broader themes, such as the theoretical and practical sides of medieval medicine, the contributions of Islamic culture to Western science, interactions between science and religion (especially natural philosophy and theology), and the university's rise and influence on the Western intellectual tradition. While surveying the context of medieval frameworks for investigating and explaining the natural world, we'll also reflect on the nature and utility of the term "science," the extent to which the origins of modern science can be located in the Middle Ages, and the importance of putting the modern scientific enterprise in historical perspective.

STUDENT LEARNING OUTCOMES

- Appreciate important developments in medieval science and medicine, especially how they can and should be understood from multiple points of view.
- Discuss and write critically about how the nature and practices of science are influenced by shifting cultural, social, religious, and political attitudes.
- Critically evaluate "popular" writings about medieval science and medicine from the web against more "scholarly" interpretations and reflect on the differences between them.

WORK REQUIREMENTS AND GRADING

- Everyone starts with a C in the course. I assume you are all average students who do average quality work. I know this is false, but it's my starting point.
- You raise (or lower) your grade based on the quality of your participation in class and your submitted written work.
- Simply showing up to class doesn't count for anything; **I expect that you'll attend most classes and be an active participant in most discussions.** Given the class size, this means that you'll have a few comments or questions to contribute at least every other meeting. If you do this, you'll raise your grade one letter grade (ie C→B).
- 3 750-word review articles of websites about the Middle Ages.
- 1 1000-word Wikipedia entry on a topic of your choice.
- If your essays follow the protocols (listed below), you'll raise your grade one letter grade (ie B→A).
- If you are displeased with your grade for any assignment, you can visit with me about your paper, rework it, and resubmit it. You can continue to do this until we agree that your essay isn't going to improve anymore. Your final grade will reflect both

your mastery of course material and your effort to improve your essay. **You cannot resubmit work without first meeting with me about your original submission and its flaws.**

ASSIGNMENT PROTOCOLS

- The website reviews are a critical analysis of a website or an online article about or related to the Middle Ages. You choose what to review by Googling something you're interested in. **The goal is to critically analyze your source and relate it to the course. Meeting the word count counts for nothing.** Even though you can choose your article to review, don't pick something that you can't relate to the course. Ask if you are unsure about whether an article is suitable or not.
- Your essays should be written for someone interested in but ignorant about the Middle Ages. You should (1) have a specific point that you want to make; (2) tell the reader clearly what it is; (3) use specific examples from the course readings to support your argument.
- Questions you might consider while thinking about your source: How does the article portray the Middle Ages? Does it offer a fair assessment or characterization? What are its sources? Are its claims supported by historical evidence? Is the article trustworthy? Does it make an interesting and worthwhile point? How does it compare to what we've read about the topic?
- Your Wikipedia article, which serves as your final exam, will be written in stages over the last quarter of the course. You are not writing a potential article, but a very real one that will be published for all the world to read. Ample guidance about this process will be provided as the end of the semester nears.
- **Final articles must be posted online by 9:30am on May 14.**

KEYS TO SUCCESS

- The reading load for the course is relatively heavy, usually about 20-30 pages per meeting. Do not get bogged down in details; read for the main point of the article and get a sense of the evidence that the author uses to make the point. The readings will challenge you, but will greatly reward you for putting in the time and effort. **Your thinking and writing will improve noticeably by the end of the semester.**
- This is **not** a lecture class; I expect that you'll come ready to discuss the assigned reading. It is common to be shy about speaking in front of your peers, to find it difficult to listen and think on the fly, and to worry about sounding stupid. These are all perfectly natural concerns, but they can be overcome only with practice. I can't think of any successful people who are afraid to join a conversation.
- Participation is not limited to answering my questions; it also means offering alternative viewpoints, interpretations, and asking questions about readings and the ongoing discussion. If you come to class with some questions, you'll always have an easy way to get involved.
- **This course emphasizes historical thinking and analysis over regurgitating information.** This means that your review essays should draw heavily from the themes of our discussions. You cannot write good essays from the reading assignments alone, nor can you write good essays without referencing relevant passages in the readings. Both of these should be easy if you're putting in a sustained effort throughout the course. If you try to write an essay at the last minute, you will fail, and will have to redo the assignment.
- **Do not suffer in silence.** I try to situate discussions and assignments squarely within the objectives of the course, but I expect that you'll ask for clarification if such connections elude you.
- If you have questions about your performance / grade during the semester, I will be very happy to meet with you to discuss how things are going. If, therefore, you feel uncertainty about your grade, it's your own fault.
- Please note that I understand that everyone comes into the course with different backgrounds, skills, and experience. **Serious effort goes a long way toward your grade!**

REQUIRED TEXTS

- David Lindberg, **Beginnings of Western Science** (2nd ed.) University of Chicago Press, 2008. ISBN 978-0226482057 [amazon](#).
- David Lindberg, **Science in the Middle Ages**. University of Chicago Press, 1978. ISBN 978-0226482330 [amazon](#).

- You will also need to subscribe to the course Zotero library to access assigned articles not contained in the edited volumes. Please see the instructions for doing this at fredgibbs.net/courses/etc/zotero.html The URL for the course library is <https://www.zotero.org/groups/242299/items>.

Reading Schedule

JAN 20-24

COURSE INTRODUCTION AND FRAMING

MLK Day

- No Class

Where Does Science Begin?

- Overview of course topics; Connections between history, science, and critical thinking.

Where Does the History of Science Begin?

- David Pingree, "Hellophilia versus the History of Science," 30-39.

JAN 27-31

CLASSICAL HERITAGE

Greeks and the Cosmos

- BWS, 21-68.

Mathematical Sciences

- BWS, 69-110.

Greek and Roman Medicine

- BWS, 111-131.

FEB 3-7

SCIENCE, MEDICINE, AND EARLY CHRISTIANITY

The Rise of Christianity

- Peter Brown, *The World of Late Antiquity*, 49-95.

Science and Christianity

- David C. Lindberg, "Science and the Early Christian Church," 509-30.

Medicine and Christianity

- Darryl Amundson, "Medicine and Faith in Early Christianity," 127-157.

FEB 10-14

SCIENCE IN THE MONASTERIES

Monastic Gardening and Healing

- Voigts, "Anglo-Saxon Plant Remedies," 250-268.
- Wallis, *Practical Medical Advice*, 34-42

Monastic Astronomy

- McCluskey, “Early Christian Astronomy,” 8-22.

Medical Cosmos

- Victoria Sweet, “Hilegard of Bingen and the Greening of Medieval Medicine,” 381-403.

FEB 17-21

THE RATIONALITY OF WEIRD

Rationalizing Magic

- Richard Kieckhefer, “The Specific Rationality of Medieval Magic,” 813-836.

Understanding Vulture Medicine

- Peregrine Horden, “What’s Wrong with Medieval Medicine?” 1-21.

Writing Workshop

- Bring Essays to Class

FEB 24-28

ANIMALS, PLANTS, MONSTERS

The History of Nature

- Jerry Stannard, “Natural History,” SMA, 429-460.

Depicting Nature

- Flores, “The Mirror of Nature Distorted,” 3-38 (lots of images).

Imagining Nature

- Pamela Gravestock, “Did Imaginary Animals Exist?” 119-131.

MAR 3-7

STIRRUPS AND TECHNOLOGICAL CHANGE

How Footrests Can Change the World, or Not

- Lynn White, *Medieval Technology and Social Change*, 1-28.

Reviewing White

- P.H. Sawyer and R. H. Hilton, “Technical Determinism,” 90-100.

Technological Determinism and the Practice of History

- Alex Roland, “Once More into the Stirrups,” 574-585.

MAR 10-14

CULTURAL AND INTELLECTUAL REBIRTH

Innovation and Appropriation in Islamic science

- A.I. Sabra, “Situating Arabic Science,” 654-70.

Renaissance of the 12th Century

- Charles Homer Haskins, *The Renaissance of the Twelfth Century*, 32-67.

New Approaches to Nature & Writing Workshop

- Bring Essays to Class

MAR 24-28

UNIVERSITIES AND CENTERS OF LEARNING

Rise of Scholasticism

- Julius R. Weinberg, *A Short History of Medieval Philosophy*, 58-90.

The Translation Movement

- David C. Lindberg, “The Transmission of Greek and Arabic Learning to the West,” SMA, 52-79.

The Origins and Rise of the University

- Pearl Kibre and Nancy Siraisi, “The Institutional Setting: The Universities,” SMA, 120-144.

MAR 31 – APR 4

THEOLOGY AND NATURAL PHILOSOPHY

Reception of Aristotle in the Universities

- Edward Grant, *The Foundations of Modern Science in the Middle Ages*, 70-85.

God vs. Aristotle

- Edward Grant, *God and Reason in the Middle Ages*, 182-206.

The Science and Philosophy of Motion

- John Murdoch and Edith Sylla, “The Science of Motion” in SMA, 206-222.

APR 7-11

ALCHEMY

Matter Theory

- Robert P. Multhauf, “John of Rupescissa and the Origin of Medical Chemistry,” 359-367.

Historical Attitudes toward Alchemy

- Lawrence M. Principe, “Alchemy Restored,” 305-312.
- Wikipedia Survey Assignment

Writing Workshop & Wikipedia Instructions

- Bring Essays to Class
- Bring Wikipedia Survey to Class

APR 14-18

HIERARCHIES OF KNOWLEDGE

Natures of Science and Disciplinary Turf Wars

- James Weisheipl, “Nature, Scope and Classification of the Sciences,” SMA, 461-480.

Early Medical Schools

- Nancy Siraisi, “Taddeo Alderotti and Bartolomeo de Varignana on the Nature of Medical Learning,” 27-39.
- Selections from Wallis, *Medieval Medicine*, 205-222.

Debating Art and Nature

- William Newman, “Technology and Alchemical Debate in the Late Middle Ages,” 423-445.

APR 21-25

LATE MEDIEVAL MEDICINE

Learned Surgery

- Michael R. McVaugh, “Surgical Education in the Middle Ages,” 283-304.

Medieval disease and the Black Death

- Selections from Horrox, *The Black Death*: 26-61; 158-163; 177-184.

Cutting up Bodies

- Katherine Park, “The Life of the Corpse: Division and Dissection in Late Medieval Europe,” 111-32.

APR 28 – MAY 2

SCIENTIFIC THINKING IN WIDER CULTURE

The Natural Philosophy and Science of Law

- Harold J. Berman, *Law and Revolution*, 143-164.

The natural philosophy of monetary exchange

- Joel Kaye, *Economy and Nature in the Fourteenth Century*, 163-199.

The Natural Philosophy of Gender

- Joan Cadden, *The Meaning of Sex Differences in the Middle Ages*, 54-57; 70-88.

MAY 5-9

THE LEGACY OF MEDIEVAL SCIENCE

Medieval science and the origins of “The Scientific Revolution”

- Edward Grant, *The Foundations of Modern Science in the Middle Ages*, 168-206.

Almost Done

- Wikipedia article reviews

Finally

- Course Conclusions and Evaluations