

Dr. William Kimler

CLASS: Tu/Th 1:30 - 2:45 in Daniels 322

OFFICE HOURS: Tuesday, 3:00 - 4:30; Wednesday, 1:30 - 4:00; and by appointment (you may email a request)

OFFICE: # 351 Withers Hall Dr. Kimler's [homepage](#)

PHONE: 919-513-2238 E-MAIL: kimler@ncsu.edu

3 credit hours

No prerequisites

GEP Interdisciplinary Perspectives

Analysis of how "modern" science developed in Europe since the 1500s, exploring the foundation of the ideas, scientific practices, institutions, and cultural meaning and power of science in modern society. Examples taken from the creation of the mechanistic worldview and Newtonian science, and the development of modern disciplines such as chemistry, geology, biology, and physics.

About This Course:

HI 322 surveys the development of modern science from the beginnings of the scientific revolution of the 17th century up to the early 1900s. The course places the history of important scientific ideas within their changing cultural and intellectual context. To understand the development of modern practices of science, we will examine the changing nature of investigation and scientific methods, new social supports and institutions for scientists, and the growing cultural importance of science.

Given how central in our society science and technology have become, the educated citizen ought to understand how their place in society has evolved. One goal of the course is to help you to develop an understanding of scientific theories, methods, institutions, and individuals of the past. We will explore an understanding of the world as seen by science, while analyzing how science itself rose to prominence. With that knowledge, you also gain a skill in basic historical reasoning, which enriches the analysis of current issues of scientific development. Overall, I hope to foster your understanding of the cultural dimension of science and the forces that shape its development.

Counting as a General Education Course:

HI 322 fulfills the **Interdisciplinary Perspectives** category of the General Education Program. The course will help you to distinguish between the distinct approaches of history and science, identify and apply the connections between them, and explore and synthesize the views of the two disciplines. In practice, you should expect to be able to

- 1) recognize and evaluate cultural influences on the practices and beliefs of science;
- 2) recognize and apply historical methods and evidence to interpret major issues in the development of science;
- 3) analyze the theoretical and/or technical constraints on scientific practice by exploring the ideas of science in particular eras; and
- 4) explain how scientists' methods, practices, or concepts are particular to a time and place.

Lecture, Attendance, and Readings:

- Attendance at lectures is essential. You are responsible for the material covered in class, the expanded coverage of those issues in the texts, and the material [on the course website](#).
- Taking notes to supplement the outlines is important, but I do require you to do this by hand. You may not record lectures or use a laptop during class. It should go without saying that cellphones should be off during class. But I'll say it -- cellphones should be off during class.
- See the sequence of topics and assignments below for the lecture, readings, essays, and exams schedule. This schedule may change, as announced in class. You are responsible for keeping up with any such changes.
 - The [website Outlines](#) listed with the Weekly Topics contain links to images and examples used in class, and additional explanations and primary source readings. You are responsible for reading the material linked from the outlines.
- Other reading assignments will be from the required textbook:
 - Henry, John. *A Short History of Scientific Thought*. New York: Palgrave, 2011. (\$38 list price)

Graded Work:

There will be 3 Exams and 2 Essay Papers:

40 % : Essays due on the particular date for the **two** questions you choose from the assignment page, with **final approval** by Dr. Kimler.

Due dates are January 28, February 4, March 17, and/or April 16.

CHOOSE (below) your **two essays** by **January 21**.

20 % : Exam 1 on Tuesday, February 11.

20 % : Exam 2 on Tuesday, March 24.

20 % : Final Exam on Tuesday, May 5 at 1:00-4:00.

- Grading scale:

A+	97-100	B+	87-89.9	C+	77-79.9	D+	67-69.9	F	<60
A	93-96.9	B	83-86.9	C	73-76.9	D	63-66.9		
A-	90-92.9	B-	80-82.9	C-	70-72.9	D-	60-62.9		

Help on papers:

- I am available in office hours to help you with any problems you have with lectures, readings, or exam study questions.

- As most of you are not History majors, you might not know what to expect for an essay. I am happy to discuss a draft of the essay in person. We can look for proper focus of the essay, general problems with writing and expression, and standards of historical writing.
- I expect that of course you will have read and followed the guidelines that I provide. Obviously, you should plan ahead with due date in mind.. Essays are due in class on the assigned date.

Absences and Missed Assignments:

- Attendance is required. You are allowed 3 unexcused absences. Each additional unexcused absence with result in a 2-point penalty to your final grade.
- Essays are due in class on the assigned date. You should discuss any problems in meeting the schedule with Dr. Kimler before the due date.
- You should contact Dr. Kimler as soon as possible, but not more than one week after the return to class, about absence because of illness or emergency. He will arrange the make-up date for an exam or essay in consultation with you.
- Make-up work for anticipated excused absences must be arranged with Dr. Kimler before exam or essay due dates. Consult the University's [Attendance Regulation for the definition of excused absence](#).

Academic Integrity:

- Students are bound by the policy on academic integrity as state in the NC State University [Code of Student Conduct](#).
- You are required to uphold the Honor Pledge ("I have neither given nor received unauthorized aid on this test or assignment."), and your adherence to academic honesty is certified by your name on the test or assignment. It is your responsibility to know what constitutes plagiarism and avoid it. If you have any questions about what is appropriate scholarly use of sources and citation, see the History Department's guide "[Plagiarism and the Honor Code](#)".

Class Evaluation:

Online class evaluations will be available for students to complete during the last 2 weeks of the semester, from April 13 (8 a.m.) through April 27 (8 a.m.). Remember, evaluations are confidential, and your professor will see the aggregate scores and the comments only a few weeks after grades are submitted.

Credit Only:

- Students taking a course S/U must complete all assignments and earn a grade of at least C- to receive credit..
- Credit Only courses can be included **only** under the Free Electives category of your curriculum, not for GEP.
- The deadline for conversion from letter grading to Credit Only (S/U) is March 2.

Electronically-hosted Course Components

Students may be required to disclose personally identifiable information to other students in the course, via electronic tools like email or web postings, where relevant to the course. Examples include online discussions of class topics, and posting of student coursework. All students are

expected to respect the privacy of each other by not sharing or using such information outside the course.

Disability Accommodations:

- Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, students must register with the Disability Resource Office in 304 Holmes Hall, Campus Box 7509, 919-515-7653. For more information on NC State's policy on working with students with disabilities, please see the [Academic Accommodations for Students with Disabilities Regulation](#).

Students are responsible for reviewing the NC State University policies and regulations which pertain to their course rights and responsibilities:

- Equal Opportunity and Non-Discrimination Policy Statement <https://policies.ncsu.edu/policy/pol-04-25-05> with additional references at <https://oied.ncsu.edu/equity/policies/>
- Code of Student Conduct <https://policies.ncsu.edu/policy/pol-11-35-01>
- Grades and Grade Point Average <https://policies.ncsu.edu/regulation/reg-02-50-03>
- Credit-Only Courses <https://policies.ncsu.edu/regulation/reg-02-20-15>
- Audits <https://policies.ncsu.edu/regulation/reg-02-20-04>

The course schedule is subject to change with appropriate notification to students.

Last modified: 2 January 2020

SCHEDULE OF TOPICS

☐ [January 7 & 9](#)

Setting up the "Scientific Revolution" of the 17th Century: New Interests, Questions, and Philosophies

READ: Henry, pp. 38-54

[Timeline](#)

[Outline #1](#)

☐ [January 14 & 16](#)

Natural Philosophy and Astronomy

READ: Henry, Ch. 6

[Outline #2](#)

☐ [January 21 & 23](#)

New Methods and Philosophy

READ: Henry, Ch. 8 & Ch. 9
[Outline #2](#)

☐ [January 28 & 30](#)
Challenges of the New Philosophy

READ: Galileo's "[Letter to the Grand Duchess Christina](#)"
[Outline #2](#)

Essay 1 due January 28. Advice (including format for citations) on [Writing a History Essay Essay 1 Assignment](#)

☐ [February 4 & 6](#)
Method and Experiment

READ: Henry, Ch. 7 & Ch. 11
pp. 54-61 & Ch. 10
[Outline #3](#)

Essay 2 due February 4. Advice (including format for citations) on [Writing a History Essay Essay 2 Assignment](#)

☐ [February 11 & 13](#)
Exam 1 on February 11
Bring a large format Blue Book and pen for the exam.
[Exam 1 Review Page](#)

Mechanical Philosophy: Public Interest
READ: Henry, Ch. 13
[Outline #3](#)

☐ [February 18 & 20](#)
The "New Philosophy" and Newton
READ: Henry, Ch. 12
[Outline #3](#)
Henry, Ch. 13
[Outline #4](#)

☐ [February 25 & 27](#)
The Newtonian Synthesis & the Spread of Newtonian Science in the 18th Century
READ: Henry, Ch. 14
[Outline #5](#)

☐ [March 3 & 5](#)
Spread of Newtonian Ideal in the 18th Century
READ: Henry, Ch. 15
[Outline #5](#)

☐ **March 17 & 19**

Scientific Naturalism in the Enlightenment

READ: Henry, Ch. 16

[Outline #6](#)

Essay 3 due March 17. Advice (including format for citations) on [Writing a History Essay Essay 3 Assignment](#)

☐ **March 24 & 26**

Exam 2 on March 24

Bring a large format Blue Book and pen for the exam.

[Exam 2 Review Page](#)

Natural History in the Enlightenment

READ: [Outline #6](#)

☐ **March 31 & April 2**

Natural History: Science and Applications

READ: Henry, Ch. 17

[Outline #8](#)

☐ **April 7 & 9**

Questions of Progress and Evolution

READ: Henry, Ch. 18 and 19

[Outline #9](#)

☐ **April 14 & 16**

Evolution: The Darwinian Synthesis

READ: Henry, Ch. 20 & Ch. 21

[Outline #9](#)

Essay 4 due April 16. Advice (including format for citations) on [Writing a History Essay Essay 4 Assignment](#)

☐ **April 21 & 23**

The Social Appeal of the World of Science

READ: Henry, Ch. 22

[Outline #10](#)

☐ **May 5: Exam 3**

1:00 - 4:00

Bring a large format Blue Book and pen for the exam.

[Exam 3 Review](#)