

PHIL 303: *Hist & Phil Of Modern Science

Location:	Evening
Address:	1001 Rogers Street Columbia, MO 65216
Section:	19FALL2/PHIL/303/AEV
Semester Credit Hours:	3
Class Day(s) and Time(s):	Wednesday 5:30 PM - 9:30 PM from October 21, 2019 to December 14, 2019

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📘 Course Information

Catalog Description

Evolution of scientific thought from 1600 A.D. to the present. Cross-listed as PHIL 303.

Prerequisite: HIST 102.

Additional Notes

Class not meet on Wednesday evening, November 27. The make-up day will be Friday, November 22.

Class sessions will include lecture, video, discussion, artifact/image analysis and/or small group activities.

Engagement: Students are expected to attend all class sessions and stay for the entire session. Engagement points may be based on in-class assignments/quizzes that can not be made up. We will discuss the specifics regarding what engagement means on the first day of class. If a student is unable to attend class, he/she must contact the instructor via email except in the case of immediate and serious emergency. Students are responsible for material covered during class periods when they are absent.

Readings: All readings should be read *prior* to the class in which they are scheduled to be discussed. In addition to readings from the textbook, there will be links in D2L to both primary and secondary sources for required reading.

Late Assignments: Late assignments will not be accepted more than 1 week after due date, and they may automatically receive a one-letter grade (10%) reduction. No late assignment will be accepted without prior communication with instructor.

📖 Textbooks

As part of TruitionSM, students will receive their course materials automatically as described below.

Bookstore Information

Visit <https://www.ccis.edu/bookstore.aspx> for details.

eText Information

If a course uses an eText, (see textbook information above) the book will be available directly in Desire2Learn (D2L) seven days before the session begins, if registered for courses prior to that date. Upon first login to VitalSource, students should use their CougarMail email address; alternate email addresses cannot be used. More information about how to use the VitalSource platform, including offline access to eTexts, can be found in D2L.

Physical Course Materials Information

Students enrolled in courses that require physical materials will receive these materials automatically at the shipping address on file with Columbia College. Delivery date of physical materials is dependent on registration date and shipping location. Please refer to confirmation emails sent from Columbia College for more details on shipping status.

Returns: Students who drop a class are responsible for returning any physical course materials that were shipped. To initiate a return, visit [Ingram Returns](#) to generate a pre-paid return label. Materials from dropped courses must be returned within 30-days of receipt. **Failure to return physical items from a dropped course will result in a charge to the student account for all unreturned items.**

Note: Students who opt-out of having their books provided as part of [TuitionSM](#) are responsible for purchasing their own course materials.

Technology Requirements

THIS IS A TECHNOLOGY-ENRICHED COURSE WHICH COMBINES IN-SEAT INSTRUCTION WITH ONLINE LEARNING.

Participation in this course will require the basic technology for all classes at Columbia College:

- A computer with reliable internet access
- A web browser
- Acrobat Reader
- Microsoft Office or another word processor such as Open Office

For more information, see [technical requirements](#).

Course Learning Outcomes

• Demonstrate a basic knowledge of the changes in scientific thinking from Aristotle to Newton. • Analyze the historical context in which scientific ideas are created, and how that context actually helps to shape the internal history of science. • Critically evaluate abstract philosophical descriptions of the scientific method and how these obtain or do not obtain in actual scientific work.

Course Objectives

• To inquire philosophically into the construction of modern science, the Scientific Revolution from Copernicus to Newton. • To examine the critical debate over the nature of “scientific revolutions,” paying close attention to the actual construction of modern science. • To critically examine the so-called scientific method in the context of the actual actions of the creators of modern science. • To study the basic scientific theories from Newton to Hawking.

Grading

Grading Scale

Grade	Points	Percent
A	900 - 1000	90-100%
B	800 - 899	80-89%
C	700 - 799	70-79%

D	600 - 699	60-69%
F	0 - 599	0-59%
Grade Weights		
Assignment Category	Points	Percent
Midterm Exam	200	20%
Research Paper	230	23%
Final Exam	200	20%
Engagement	150	15%
Short writing assignment (2)	150	15%
Research paper presentation	70	7%
Total	1000	100%

Schedule of Due Dates

Week 1		
Assignment	Points	Due
Reading Assignment	--	Wed., Oct. 23
Engagement	20	Wed., Oct. 23
Week 2		
Assignment	Points	Due
Reading Assignment	--	Wed., Oct. 30
Engagement	25	Wed., Oct. 30
Week 3		
Assignment	Points	Due
Reading Assignment	--	Wed., Nov. 6
Engagement	25	Wed., Nov. 6
Topic for Research Paper	10	Sun., Nov. 10, 11:59 p.m.
Short writing assignment	75	Sun., Nov. 10, 11:59 p.m.
Week 4		
Assignment	Points	Due
Reading Assignment	--	Wed., Nov. 13
Engagement	10	Wed., Nov. 13
Preliminary bibliography	20	Sun., Nov. 17, 11:59 p.m.
Week 5		
Assignment	Points	Due
Reading Assignment	--	Wed., Nov. 20
Engagement	25	Wed., Nov. 20
Short writing assignment	75	Sun., Nov. 24, 11:59 p.m.
Week 6		
Assignment	Points	Due
Reading Assignment	--	Fri. NOV 22
Engagement	25	Wed., Nov. 27
Week 7		
Assignment	Points	Due
Reading Assignment	--	Wed., Dec. 4
Engagement	10	Wed., Dec. 4
Research Presentations	70	Wed., Dec. 4

Assignment	Points	Due
Research Paper		
		Wed., Dec. 8, 11:59 p.m.
Week 8		
Assignment	Points	Due
Reading Assignment	--	Wed., Dec. 11
Engagement	10	Wed., Dec. 11
Final Exam	200	Wed., Dec. 11
Total Points: 1000		

Assignment Overview

Assignments

Engagement (150 points, 15% of grade)

Elements of Course Engagement will include regular attendance, engagement during class, small-group activities, and/or short in-class assignments/quizzes. Specifics of what engagement means and how points will be given will be discussed during the first class period.

Short Writing Assignments (75 points each for a total of 150 points, 15% of grade)

There will be two short, out-of-class, writing assignments worth 100 points each. One essay will be a guided response to a primary source. The other will be a review of a scholarly article. Each will require a minimum of 600 words (approx. two pages double-spaced). Additional information will be provided regarding these assignments.

Research Presentation (70 points, 7% of grade)

Students are expected to prepare and deliver a 10 to 15 minute oral presentation on the topic of their research paper during the Week 7 class period.

Research Paper (230 points, 23% of grade)

Students will complete a research paper at least 10-12 pages in length (approx. 2,500-3,000 words), double-spaced, one inch margins all around, standard 12-point font (such as Times New Roman). Topics, in consultation with the instructor, will need to be chosen by the end of Week 3 (10 points if done on time). A preliminary bibliography will need to be submitted by the end of week 4 (20 points if submitted on time). The final paper is due by the end of Week 7 (200 points). Further instructions and expectations for the term paper will be provided.

Examinations

The examinations will be both objective and subjective in nature and may include multiple choice, short answer/identification, and/or essay questions. These two tests are an exercise to measure your ability to grasp the material that is being read, discussed, and analyzed.

Midterm Exam (200 points, 20% of grade)

In Week 4, students will complete a paper-and-pen exam consisting of multiple choice, short answer and essay questions based on material from Weeks 1-3. Be sure to review lecture notes and assigned readings in preparation.

Final Exam (200 points, 20% of grade)

In Week 8, students will complete a paper-and-pen exam consisting of multiple choice, short answer and essay questions based on material from Weeks 4-8. Be sure to review lecture notes and assigned readings in preparation.

Course Outline

Click on each week to view details about the activities scheduled for that week.

Week 1: Introductions, Science, Philosophy, Aristotle

Introductions and Course Expectations

Reading Assignment

Worldviews, pp. 7-16, 75-98.

1. What is Science? -- Science and Philosophy
 2. Aristotelian worldview
 3. Cosmology
 4. Arabic Science and the Islamic World
 5. China
- Engagement

Week 2:

Reading Assignment

Worldviews, pp. 115-152.

1. Copernicus
 2. Kepler
 3. Galileo
 4. Descartes
- Engagement

Week 3: The Scientific Revolution

Reading Assignment

Worldviews, pp. 154-178.

Engagement

Topic for Research Paper

Short writing assignment

Review/analysis of a primary source related to research paper topic.

1. Newton and Newtonian worldview
2. Scientific Revolutions and Paradigms
3. Rationalism
4. Scientific Law

Week 4: Other Sciences

Reading Assignment

Worldviews, pp. 179-190, 286-318.

1. Chemistry
2. Geology
3. Ecology/Environment
4. Biology, Evolution and Darwin

Engagement

Midterm Exam

Preliminary bibliography

Preliminary bibliography for research paper. Must include at least one primary source and 2 secondary sources.

Week 5: Relativity

Reading Assignment

Worldviews, pp. 184-218.

1. Classical Physics
2. Einstein

3. Special Theory of Relativity
4. General Theory of Relativity
Engagement
Short writing assignment

Week 6: Quantum Mechanics

Reading Assignment

Worldviews, pp. 230-285.

1. Quantum Theory
2. Humans Sciences\Psychology
Engagement

Week 7: Presentations

Reading Assignment

Engagement

Research Presentations

Research paper

Week 8:

Reading Assignment

Worldviews, pp. 320-327

Research Presentations (as needed)

1. The Organization of Science
2. Popular Science

Engagement

Final Exam

+ Additional Resources

Online databases are available at library.ccis.edu. You may access them using your CougarTrack login and password when prompted.

Technical Support

If you have problems accessing the course or posting your assignments, contact your instructor, the Columbia College Technology Solutions Center, or the D2L Helpdesk for assistance. If you have technical problems with the VitalSource eText reader, please contact VitalSource. Contact information is also available within the online course environment.

- Columbia College Technology Solutions Center: CCHelpDesk@ccis.edu, 800-231-2391 ex. 4357
- D2L Helpdesk: helpdesk@d2l.com, 877-325-7778
- VitalSource: support@vitalsource.com, 1-855-200-4146

Online Tutoring

Smarthinking is a free online tutoring service available to all Columbia College students. Smarthinking provides real-time online tutoring and homework help for Math, English, and Writing. Smarthinking also provides access to live tutorials in writing and math, as well as a full range of study resources, including writing manuals, sample problems, and study skills manuals. You can access the service from wherever you have a connection to the Internet. I encourage you to take advantage of this free service provided by the college.

Access Smarthinking through CougarTrack at [Students -> Academics -> Resources](#).

Columbia College Policies and Procedures

The policies set forth in the [Policy Library](#) are the current official versions of College policies and supersede and replace any other existing or conflicting policies covering the same subject matter. For more information on policies applicable to students, see [Student Policies](#). For more information on policies applicable to the entire Columbia College community, see [College-Wide Policies](#).

Students are expected to read and abide by the College policies. Policies of particular interest to students include, but not limited to the following:

- Graduate Grading Policy
- Undergraduate Grading Policy
- Registration Policy and Procedures
- Withdrawal Policy
- Alcohol and Other Drugs Policy
- Family Educational Rights and Privacy Act (FERPA)

Additional Policies:

Academic Integrity and Plagiarism

Academic integrity is a cumulative process that begins with the first college learning opportunity. Students are responsible for knowing and abiding by the [Academic Integrity Policy and Procedures](#) and may not use ignorance of either as an excuse for academic misconduct. Additionally, all required papers may be submitted for textual similarity review to Turnitin.com for the detection of plagiarism. All submitted papers may be included in the Turnitin.com reference database for the purpose of detecting plagiarism. This service is subject to the Terms and Conditions of Use posted on the Turnitin.com site.

Disability Resources

If you have a disability that requires an accommodation, please speak with the instructor and consult the [Student Accessibility Resources](#) office. Student Accessibility Resources staff will determine appropriate accommodations and will work with your instructor to make sure these are available to you. To find additional information, see our [ADA and Section 504 Policy for Students](#).

Notice of Non-Discrimination and Equal Opportunity:

The College has a process through which students, faculty, staff and community members who have experienced or witnessed incidents of discrimination, harassment, or retaliation on the basis of protected status, can report their experiences to a College official. For more information, see our [Non-Discrimination and Equal Opportunity Policy and Complaint Resolution Procedure](#).

Title IX and Sexual Misconduct

The College is committed to addressing the issues of discrimination, harassment and sexual misconduct in the educational and workplace landscape and will continue to modify policies, procedures and prevention efforts as needed. For more information, see the College's [Title IX and Sexual Misconduct Policy](#).

Course Policies and Procedures:

Attendance Policy

Columbia College students are expected to attend all classes and laboratory periods for which they are enrolled.

For classes with an online component, attendance for a week includes submitting any assigned online activity. Assigned activities are scheduled prior to the course commencing. Assigned activity due dates are subject to change based on actual course progression and will be adjusted as necessary. Attendance for the week is based upon the date work is submitted. A class week is defined as the period of time between Monday and Sunday (except for week 8, when the work and the course will end at 11:59 PM Central Time on Saturday.) The course and system deadlines are based on the Central Time Zone.

Students are directly responsible to instructors for class attendance and work missed during an absence for any cause. If absences jeopardize progress in a course, the College reserves the right to drop or withdraw students from classes. For additional information, see the Administrative Withdrawal for Non-Attendance heading in the [Withdrawal Policy](#).

CougarMail

All students are provided a CougarMail account when they enroll in classes at Columbia College. You are responsible for monitoring email from that account for important messages from the College and from your instructor.

Students should use email for private messages to the instructor and other students. The class discussions are for public messages so the class members can each see what others have to say about any given topic and respond.

Late Assignment Policy

All classes rely on participation and a commitment to your instructor and your classmates to regularly engage in the reading, discussion and writing assignments. You must keep up with the schedule of reading and writing to successfully complete the class.

No late assignments will be accepted without the prior approval of the instructor.

Acceptance of a late assignment is at the discretion of the instructor.

Make-up examinations may be authorized for students who miss regularly-scheduled examinations due to circumstances beyond their control. Make-up examinations must be administered as soon as possible after the regularly scheduled examination period and must be administered in a controlled environment.

Student Conduct

All Columbia College students, whether enrolled in a land-based or online course, are responsible for behaving in a manner consistent with Columbia College's **Student Conduct Code** and **Acceptable Computing Use Policy**. Students violating these policies or any other College policy will be referred to the office of Student Affairs and/or the office of Academic Affairs for possible disciplinary action. The Student Code of Conduct, the **Student Behavioral Misconduct Policy and Procedures**, and the Acceptable Computing Use Policy can be found in the Policy Library at ccis.edu/policies. The adjunct faculty member maintains the right to manage a positive learning environment all students must adhere to the conventions of online etiquette when enrolled in a course with an online component.