

Introduction to the History, Philosophy, and Sociology of Science

LB 133.7 Networks of Science

Syllabus version: 2017 January 11 – subject to change

Spring 2017
M,W 12:40 PM - 2:30 PM
C102 Holmes Hall

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Lyman Briggs and James Madison Colleges

Offices: 191 East Holmes Hall and 315 South Case Hall

Office Hours: Tuesdays 10:15-11:15 in Holmes and Tuesdays 1:30-2:30 in Case



Image: Mapping the Republic of Letters Project, Stanford, <http://republicofletters.stanford.edu>

COURSE DESCRIPTION

Science is a social process. People work together to produce knowledge about the natural world. Because people are at the heart of science, we can use the tools of history, philosophy, and sociology to understand the rules and practices that shape the human production of natural knowledge, and how those rules and practices have changed over time. LB 133 investigates these relationships among individuals, science, technology, and society. This section of LB 133 focuses on historical networks of scientific practitioners to illuminate these relationships. LB 133 also fulfills the University's Tier-One writing requirement; thus, students will strengthen their academic and professional reading, communication, and critical thinking skills through consistent practice throughout the semester.

In the past decade, historians of science and technology have documented numerous instances of the role of networks in the production of knowledge. During the sixteenth and seventeenth centuries, naturalists on Lime Street in London shared specimens, illustrations, and suggestions with each other and via correspondence with other naturalists across Europe. After the publication of *On the Origin of Species*, Charles Darwin occupied the center of a vast transatlantic correspondence network from his estate at Down House, collecting the specimens and observations he needed for his subsequent publications. At Columbia University in the opening decades of the 20th century, Thomas Hunt Morgan organized a research group dedicated to studying *drosophila melanogaster*, the fruit fly. Morgan's fly group gradually expanded to a nationwide network of knowledge and specimen exchange, a group that laid the foundations of classical genetics. These networks were intertwined with the rise of global travel and trade, and some have overlapped with artistic, literary, or social movements.

This course considers the history of science and technology since the Renaissance through the lens of networks – the connections among peoples, places, practices, processes, and artifacts. How did these communities come together to produce knowledge about the natural world, and to transform the tools of everyday life? How did members characterize and govern their participation? How can we visualize and document the geographies and biographies of these networks?

COURSE OBJECTIVES

Students will achieve the following learning gains:

Critical Reading and Thinking

- Demonstrate the ability to actively and critically read an academic or professional essay (hereafter: A/P essay) for content, argument, and evidence
- Demonstrate the ability to identify the thesis statement and supporting evidence of an A/P essay
- Formulate thoughtful discussion questions based on the content, argument, and evidence of an A/P essay
- Respond to peer-created discussion questions based upon the content, argument, and evidence of an A/P essay

Communication (Written and Verbal)

- Develop their ability to communicate verbally in small and large groups

- Develop their ability to formulate and demonstrate an original thesis statement in written form
- Develop their ability to write an academic essay with introduction and conclusion, thesis statement (argument) presented in introduction, cogent topic sentences introducing body paragraphs that support and provide evidence for the thesis statement, and a conclusion that connects the thesis to wider implications.
- Develop their ability to synthesize sources by identifying common themes, conversational threads, or putting sources in dialogue with one another

History of Science / Networks of Science

Gain knowledge about fundamental concepts and topics in HPS including:

- Identifying continuities and changes over time in the production of natural knowledge and the practice of science
- Identifying the practices that govern the production of natural knowledge within particular scientific networks, such as who is included (and excluded), what rules govern participation, what moral economies govern participation, where natural knowledge is produced, and how race, class, and/or gender factor into that scientific network
- Comparing and contrasting various dimensions of scientific networks over times

ACADEMIC INTEGRITY

I value academic integrity and honesty. Any form of cheating or plagiarism in this course will be reported to the Dean and become part of your academic record. Complete your own work. Value your ideas, and honor and respect the ideas of others. Use appropriate citation of all sources in your written work (see the last pages of the syllabus for citation information).

I expect each of you to adhere to the Spartan Code of Honor (written by your peers, for MSU students): “As a Spartan, I will strive to uphold values of the highest ethical standard. I will practice honesty in my work, foster honesty in my peers, and take pride in knowing that honor is worth more than grades. I will carry these values beyond my time as a student at Michigan State University, continuing the endeavor to build personal integrity in all that I do.”

SUCCESS IN THIS COURSE / OVERVIEW

Active class participation (includes attendance, completion of all assigned readings, 2 discussion questions each week, and 1 reading response each week)	15%
Writing studio attendance and participation	10%
Student-led in-class learning activity	10%
Essay on Unit 1	10%
Essay on Units 1 and 2	15%
Essay on Units 1, 2, and 3	20%
Culminating paper (Units 1 through 4)	20%

Note well: I do not accept late work. Any late work earns a 0.0.

Also note: The MSU Student Handbook suggests that you spend 2 hours per week outside of class for every credit your class is worth. This class is worth 4 credits. I expect that you will spend at least 8 hours per week on the assignments (including reading) for this course.

SUCCESS IN THIS COURSE / ACTIVE CLASS PARTICIPATION / 15%

In order to succeed in this course, your **attendance**, and active participation and engagement, are required at every class. One full point will be deducted from your course-long participation grade for each unexcused absence. If you know in advance that you will miss a class (for example, in the case of religious observance), please contact me as early as possible to make arrangements. If you miss a class for a reason that may be excused but cannot be anticipated, such as illness or grief, please contact me as soon as possible after the class has been missed to make arrangements.

Participation is making meaningful, thoughtful contributions to small group and large class discussions and activities. Your comments must be original and must demonstrate a critical and thoughtful examination of the assigned readings. Please do not simply repeat a peer's comment or offer an unrelated observation. Similarly, please do not simply sit silently throughout class – being physically present does not count as active participation.

The **readings** for this course are all posted on the course's D2L website, or they are available online through the MSU library (where noted). You will note that many of the readings are chapters excerpted from longer books (which you may purchase if you prefer). I expect that you will actively and critically read the works assigned. This means taking notes, recording your responses, questions, and analyses, and – in general – interacting with the assigned reading. We will talk more about this over the course of the semester. Please do the readings and assignments listed on the syllabus for the day they are listed—in other words, **do the readings listed before coming to class that day.**

To facilitate your active participation, for every week in which readings are assigned, you are required to bring to class 2 (or more) **discussion questions** to class every Monday, based on the readings assigned for that day. You are also required to bring to class 1 **reading response** of at least 500 words (approximately 1 page, 12 font, Times New Roman, 1-inch margins) to class every Wednesday, based on the readings assigned for that *week* (Monday and Wednesday). These questions and responses will be typed, with student name, date, and citation for the reading at the top of the page. (See the last pages of the syllabus for citation format information.) The typed questions and responses will be submitted to Professor Joy at the end of each class.

During the semester, we will consider the characteristics of good discussion questions – those that are grounded in the argument and evidence of the reading. The reading response should address questions such as:

- What is the main argument of the reading, and how is it supported by evidence?
- Are there any contradicting points of evidence that the author has not considered?
- What was unclear, or what did you disagree with in this reading?
- How does the content of this reading connect with your personal life?
- How is the content of this reading reflected in other things you have read, seen or done?
- What have you observed about yourself or others since this reading?
- What conclusions have you made after this reading?
- What would you like to do as a result of this reading?

In this class you will be assigned to **learning teams** of 3-4 peers. The composition of the groups will be determined using software called CATME Team-Maker (<http://info.catme.org>). The teams will work together in various ways over the course of the semester on the assigned readings. Note: any problems with your group must be reported to Professor Joy right away.

As a group, we will determine our own class guidelines for productive and considerate classroom discussion. We will also determine our own guidelines for in-class technology (laptop, tablet, smartphone, etc.) use.

SUCCESS IN THIS COURSE / WRITING STUDIO ATTENDANCE AND PARTICIPATION / 10%

The LB 133 Writing Studio is a weekly 1-hour lab for your regularly scheduled course. The students in each Writing Studio group are members of the same section of LB 133. The Writing Studio serves as an additional entry point into the skills and practice needed to become successful readers, writers, and critical thinkers. In the studio, you will get expert and additional peer help in small group workshops or consultations under the guidance of a Writing Mentor. Writing Mentors will not teach course content; rather, they will focus on helping you develop your reading, writing, and critical thinking abilities, supplementing the instruction in HPS content and writing that happens in your class. Writing Mentors are not graders or evaluators, they are mentors and consultants. Studios are designed to be student-centered and directed by students' needs and learning goals from week to week. However, attendance is mandatory and will count as 10% of your grade.

In addition to the Studio, you are encouraged to seek additional one-to-one help through The Writing Center. In a One-to-One consultation, a consultant will work with you (or a small group) to improve your writing on an individual basis. By listening and asking questions, the consultant can help you identify your writing strengths and weaknesses and can give you the tools you need to improve your writing. Consultants are available at several different locations across campus to collaborate with you at any stage in the writing process, from brainstorming to drafting your dissertation. Consultants will also work with any type of composing projects from essays to presentations to student-led learning activities. You can make an appointment at writing.msu.edu.

SUCCESS IN THIS COURSE / STUDENT-LED IN-CLASS LEARNING ACTIVITY / 10%

Each student will plan and facilitate a portion of in-class learning, to last approximately 30 minutes. Your planned activity must tie in with the day's readings and must deepen your peers' understanding of those readings. However, you may draw connections between the readings and any relevant topic of interest in science, technology, and society. You have tremendous flexibility in the types of activities you may plan.

Written work for the assignment is due to Prof. Joy by email 48 hours before the in-class activity. This will consist of a lesson plan or agenda (at least 1 page, single- or double-spaced, 12 font, Times New Roman), as well as electronic links to any primary or secondary sources used for the activity, and to any current articles, video clips, photographs, websites, etc. to be used for the activity. This lesson plan will:

- Identify learning outcomes (or learning goals) that the student selects from among university, Lyman Briggs, and course learning goals.
- Explain and thoughtfully reflect on how the planned activity will achieve those learning outcomes. Provide a discussion of any obstacles or challenges that may be anticipated, and

how discussion facilitator (you, the student leading this activity) will work around those outcomes.

- Describe in detail the steps of the activity that the discussion facilitator will lead her or his classmates through in class.
- Identify any primary or secondary sources, or current articles, video clips, photographs, etc. to be used for the activity.
- Identify any supplies that may be needed for the activity.

Your grade will be based on your lesson agenda, the execution of your activity in class, and an evaluation by your peers. Early in the semester, I will provide more detailed instructions for this assignment, and we establish a schedule of presentations. The instructions and schedule will be posted on the course D2L site.

SUCCESS IN THIS COURSE / ESSAY ON UNIT 1 / 10%

A 1500-word (approximately 4 pages, double-spaced, 12 font, Times New Roman, 1-inch margins) paper that draws upon the class readings, class activities, and lectures from Unit 1. You will have a choice of questions from which you will select one to answer. I want to see you engage the materials in a thoughtful and analytical manner to produce an essay that demonstrates to me that you have thought through the content, arguments, and evidence involved in this unit of the course. The grading rubric for written assignments is on the last page of the syllabus. You must cite quotes and paraphrasing correctly. See the last pages of the syllabus for citation format information.

SUCCESS IN THIS COURSE / ESSAY ON UNITS 1 AND 2 / 15%

A 1500-word (approximately 4 pages, double-spaced, 12 font, Times New Roman, 1-inch margins) paper that draws upon the class readings, class activities, and lectures from Units 1 and 2. You will have a choice of questions from which you will select one to answer. I want to see you engage the materials in a thoughtful and analytical manner to produce an essay that demonstrates to me that you have analyzed and synthesized the content, arguments, and evidence involved in these units of the course. This essay is intended for you to build upon your Essay on Unit 1. The grading rubric for written assignments is on the last page of the syllabus. You must cite quotes and paraphrasing correctly. See the last pages of the syllabus for citation format information.

SUCCESS IN THIS COURSE / ESSAY ON UNITS 1, 2, AND 3 / 20%

A 1500-word (approximately 4 pages, double-spaced, 12 font, Times New Roman, 1-inch margins) paper that draws upon the class readings, class activities, and lectures from Units 1, 2, and 3. You will have a choice of questions from which you will select one to answer. I want to see you engage the materials in a thoughtful and analytical manner to produce an essay that demonstrates to me that you have analyzed and synthesized the content, arguments, and evidence involved in these units of the course. This essay is intended for you to build upon your Essay on Unit 1 **and** your Essay on Units 1 and 2. The grading rubric for written assignments is on the last page of the syllabus. You must cite quotes and paraphrasing correctly. See the last pages of the syllabus for citation format information.

SUCCESS IN THIS COURSE / CULMINATING ESSAY (ON UNITS 1 THROUGH 4) / 20%

A 2000-word (approximately 6 pages, double-spaced, 12 font, Times New Roman, 1-inch margins) paper that draws upon the class readings, class activities and lectures, student-led learning activities, student-generated discussion questions, and **your own** notes, discussion questions, reading responses, in-class writing assignments and assigned unit essays that you have completed over the course of the semester. The purposes of this essay are to allow you to demonstrate that you have achieved the course objectives and allow you to critically reflect on what you have learned in this course.

For this assignment, you should select scientific networks from two, three, or four of the units we have studied during the semester, and compare and contrast them. At least one of the networks that you select *must* be from Unit Four. (If you select only two networks, I expect you to analyze and synthesize *multiple* practices within each network to discuss continuities and changes in the production of natural knowledge over time. If you select three or four networks, you may go in-depth on a particular practice to analyze and synthesize.) In your essay, you should identify, characterize, and analyze a particular practice of each network, **and** you should explain how that particular practice of the network changed your understanding of science (compared with the beginning of the semester). Identify the readings and other sources (including class discussions, information from other classes, or other relevant knowledge or experiences) that have shaped your learning. Describe what you have learned and how you learned it. Given that an important goal of this assignment is to show that you have learned something in this class, you should definitely avoid saying that your view is totally unchanged since the beginning of the class. The grading rubric for written assignments is on the last page of the syllabus. You must cite quotes and paraphrasing correctly. See the last pages of the syllabus for citation format information.

The relevant course HPS objectives to consider for this assignment are:

- Identifying continuities and changes over time in the production of natural knowledge and the practice of science
- Identifying the practices that govern the production of natural knowledge within particular scientific networks, such as who is included (and excluded), what rules govern participation, what moral economies govern participation, where natural knowledge is produced, and how race, class, and/or gender factor into that scientific network
- Comparing and contrasting various dimensions of scientific networks over times

A few notes on the culminating essay:

- This is called the culminating essay for the course because you will have worked on it throughout the semester (from the very beginning, in fact): your in-class writing assignments and your reading responses will be important resources for this paper (see note 3 below). As you identify networks and/or practices that you think you might like to write about, you should also start making notes about relevant points that you might work into your final paper.
- You are welcome to discuss your ideas with others in the class (including me) and *encouraged* to bring up relevant discussion points during class. If you say something in your paper along the lines of “When we were talking about x in class, I asked people whether they agreed with me that y and was surprised when someone said z . I thought about it, and still think that y because...” (or, “I now think that q because...”), that would be great!

- Be *very careful to cite your sources*, including class readings, external readings (including websites), discussions with others (whether in class or elsewhere), and your own reading responses and in-class writing assignments. If you are unsure about how to do this, talk to me, or bring it up in class, since others will have the same questions.

SUCCESS IN THIS COURSE / ETIQUETTE

- Please tell me if you are struggling to read the material critically, understand class content and concepts, or write a well-argued paper. You can talk to me after class, during office hours, by appointment, or by email.
- If you email, you must say to whom you are writing (Professor Joy) and identify who you are. You *MUST* use your MSU email account. This is to maintain your privacy (anyone can claim to be you if emailing from a Google or Hotmail account) and to maintain good manners when emailing your professor.
- As always at Lyman Briggs, respect, inclusion, and integrity are central to how we treat one another and approach our work.

SCHEDULE FOR READINGS AND ASSIGNMENTS – SUBJECT TO CHANGE

Monday January 9

Introductions to the course and each other. Review syllabus. Create job descriptions for students and professor, course guidelines for an inclusive and respectful learning environment, course guidelines for technology use.

UNIT ONE: THE REPUBLIC OF LETTERS AND THE GREAT EXCHANGE: GLOBAL CIRCULATION DURING THE 1500S AND 1600S

Wednesday January 11

Read and discuss in class:

Deborah E. Harkness, *The Jewel House: Elizabeth London and the Scientific Revolution* (New Haven: Yale University Press, 2007), “A Note about ‘Science’” on pages xv through xviii. Full text online through MSU Library.

Monday January 16

MLK Day – No class.

Wednesday January 18

Read: Deborah E. Harkness, *The Jewel House: Elizabeth London and the Scientific Revolution* (New Haven: Yale University Press, 2007), Prelude (pages 1-14). Full text online through MSU Library.

Monday January 23

Read before class: Deborah E. Harkness, *The Jewel House: Elizabeth London and the Scientific Revolution* (New Haven: Yale University Press, 2007), Chapter One, pages 15-44 (top of 44, stop at *Losing Lime Street*). Full text online through MSU Library.

Wednesday January 25

Read before class: Deborah E. Harkness, *The Jewel House: Elizabeth London and the Scientific Revolution* (New Haven: Yale University Press, 2007), Chapter One, pages 44-56. Full text online through MSU Library.

Monday January 30

Read before class: Harold J. Cook, *Matters of Exchange: Commerce, Medicine, and Science in the Dutch Golden Age* (New Haven: Yale University Press, 2007), Chapter One, pages 1-20 (stop at *Collecting Objects and Specimens*). Full text online through MSU Library.

Wednesday February 1

Read before class: Harold J. Cook, *Matters of Exchange: Commerce, Medicine, and Science in the Dutch Golden Age* (New Haven: Yale University Press, 2007), Chapter One, pages 20-41. Full text online through MSU Library.

Note: Prompts for Essay 1 will be distributed in class today.

Monday February 6

Read before class: Antonio Barrera-Osorio, *Experiencing Nature: The Spanish American Empire and the Early Scientific Revolution* (Austin: University of Texas Press, 2006), Chapter One, pages 13-28. Full text online through MSU Library.

Wednesday February 8

DUE: *Essay 1 due by email to Professor Joy by 12:30pm today.*

No reading due for class.

UNIT TWO: COMMUNITIES OF INQUIRY IN THE OLD AND NEW WORLDS, CIRCA 1750-1850

Monday February 13

Read before class: Roger J. Wood and Vitezslav Orel, *Genetic Prehistory in Selective Breeding: A Prelude to Mendel* (Oxford: Oxford University Press, 2001), Chapter Four, excerpts in D2L.

Wednesday February 15

Read before class: Roger J. Wood and Vitezslav Orel, *Genetic Prehistory in Selective Breeding: A Prelude to Mendel* (Oxford: Oxford University Press, 2001), Chapter Five, excerpts in D2L.

Monday February 20

Read before class: Philip J. Pauly, *Fruits and Plains: The Horticultural Transformation of America*, (Cambridge, MA: Harvard University Press, 2007), Chapter Three, excerpts in D2L.

Wednesday February 22

Read before class: Andrew J. Lewis, "Gathering for the Republic: Botany in Early Republic America," in *Colonial Botany: Science, Commerce, and Politics in the Early Modern World* (Philadelphia: University of Pennsylvania Press, 2005), Chapter 4, pages 66-80.

Note: Prompts for Essay on Units 1 and 2 will be distributed in class today.

Monday February 27

Read before class: Walter Isaacson, *Benjamin Franklin: An American Life* (New York: Simon and Schuster, 2003), Chapter Six, pages 129-145.

Wednesday, March 1

Middle of semester

DUE: *Essay on Units 1 and 2 due by email to Professor Joy by 12:30PM today.*

No reading due for class.

Monday March 6

Spring break – no class

Wednesday March 8

Spring break – no class

UNIT THREE: DARWIN AND OTHER VICTORIANS**Monday March 13**

Read before class: Janet Browne, *Charles Darwin: The Power of Place* (Princeton: Princeton University Press, 2002), Chapter One, pages 3-23 (stop at Section break IV).

Wednesday March 15

Read before class: Janet Browne, *Charles Darwin: The Power of Place* (Princeton: Princeton University Press, 2002), Chapter One, pages 23-42.

Monday March 20

Prof. Joy at Computer History Museum Conference – No class.

Wednesday March 22

Read before class: Sydney Padua, *The Thrilling Adventures of Babbage and Lovelace *The (Mostly) True Story of the First Computer* (Penguin Random House UK, 2015), Chapter One, pages 12-39. Note: This is a graphic novel, but please read the footnotes and endnotes – not just the comic!

Monday March 27

Read before class: Laura J. Snyder, *The Philosophical Breakfast Club: Four Remarkable Friends Who Transformed Science and Changed the World* (New York: Broadway Books, 2011), Introduction and/or Chapter One, pages to be assigned.

Note: Prompts for essay on Units 1, 2, and 3 distributed in class today.

Wednesday March 29

Laura J. Snyder, *The Philosophical Breakfast Club: Four Remarkable Friends Who Transformed Science and Changed the World* (New York: Broadway Books, 2011), Chapter Eight, pages 189-220.

Monday April 3

DUE: *Essay on Units 1, 2, and 3 due by 12:30PM today by email to Professor Joy.*

No reading due before class.

Read and discuss in class: Eileen Magnello, “Florence Nightingale: The Compassionate Statistician,” *Plus Magazine: Living Mathematics*, December 8, 2010, <https://plus.maths.org/content/florence-nightingale-compassionate-statistician>.

and

Kathleen Tuthill, "John Snow and the Broad Street Pump: On the Trail of an Epidemic," *Cricket* 31(3), pp. 23-31, Nov. 2003, <http://www.ph.ucla.edu/epi/snow/snowcricketarticle.html>.

**UNIT FOUR: OF FLIES, PHAGE, AND OTHER MODEL ORGANISMS:
GENETICS AND MOLECULAR BIOLOGY IN THE 20TH CENTURY**

Wednesday April 5

Read before class: Robert E. Kohler, "Moral Economy, Material Culture, and Community in *Drosophila* Genetics (1998)," in *The Science Studies Reader* edited by Mario Biagioli (New York: Routledge, 1999): pages 243-257.

Monday April 10

Read before class: Jim Endersby, *A Guinea Pig's History of Biology* (Cambridge: Harvard University Press, 2007), Chapter Six (on *Drosophila*), pages 170-208.

Wednesday April 12

Read before class: Jim Endersby, *A Guinea Pig's History of Biology* (Cambridge: Harvard University Press, 2007), Chapter Eight (on Bacteriophage), pages 251-291.

Monday April 17

Read before class: Michel Morange, *A History of Molecular Biology* (Cambridge: Harvard University Press, 1998), Chapter Four (on The Phage Group), pages 40-50.

Wednesday April 19

Read before class: Jim Endersby, *A Guinea Pig's History of Biology* (Cambridge: Harvard University Press, 2007), Chapter 12 (on *OncoMouse*®), pages 411-432.

Monday April 24

Work in class on your culminating papers.

Wednesday April 26

Peer Review of draft of your culminating paper (you will submit a copy of your draft paper to Prof. Joy in class for participation)

Monday May 1 at 12:30PM: Culminating Paper Due

Introduction to the History, Philosophy, and Sociology of Science

Focus: Networks of Science

LB 133.7 Spring 2017

Professor Joy Rankin

Essay Evaluation Criteria

The following are the characteristics of an essay that will earn a 4.0:

Thesis

- Clear and concise
- Strong argument
- Narrow and specific
- Interesting and original

Analysis and Evidence

- Displays mastery of course topics and supporting course materials pertinent to essay
- Claims are supported with evidence from assigned readings, lectures, discussion, and other relevant course materials
- Demonstrates critical and thoughtful reading of works and sources cited
- Effectively incorporates evidence from sources into the body of the paper
- Argues from rather than describes sources
- Authors, dates, and audiences of sources are clearly identified

Style and Language

- Grammatically correct and without spelling mistakes or typographical errors
- Active verbs
- Appropriate and engaging word choice
- Citations correct and consistent according to Chicago Manual of Style (16th ed.) format

Structure

- Introduction contextualizes the thesis
- Middle paragraphs develop the thesis in logical order
- Conclusion raises broader significance
- Coherent, no distracting tangents
- Concepts are clear
- Paragraphs begin with topic sentences
- Transitions between paragraphs and ideas are clear
- Approximately 1,500 words

Citation Style for LB 133.7 Written Assignments

Source: Chicago Manual of Style Online, *Chicago-Style Citation Quick Guide*.

Note that the complete Chicago Manual of Style is available online through the MSU Library. Go to <https://www.lib.msu.edu/research/cite-resources/>, click on “Chicago Manual of Style,” and log in with your NetID. *Chapter 14: Documentation I: Notes and Bibliography* provides detailed information that is summarized in the Quick Guide below. You will find the Quick Guide linked through the online Chicago Manual of Style homepage.

Chicago-Style Citation Quick Guide

The Chicago Manual of Style presents two basic documentation systems: (1) notes and bibliography and (2) author-date. Choosing between the two often depends on subject matter and the nature of sources cited, as each system is favored by different groups of scholars.

The notes and bibliography style is preferred by many in the humanities, including those in literature, history, and the arts. This style presents bibliographic information in notes and, often, a bibliography. It accommodates a variety of sources, including esoteric ones less appropriate to the author-date system.

The author-date system has long been used by those in the physical, natural, and social sciences. In this system, sources are briefly cited in the text, usually in parentheses, by author’s last name and date of publication. The short citations are amplified in a list of references, where full bibliographic information is provided.

Notes and Bibliography: Sample Citations

The following examples illustrate citations using the notes and bibliography system. Examples of notes are followed by shortened versions of citations to the same source. The bibliography entry for the source follows the shortened citations. For more details and many more examples, see [chapter 14](#) of *The Chicago Manual of Style*. For examples of the same citations using the author-date system, click on the Author-Date tab above.

Book: One author

1. Michael Pollan, *The Omnivore’s Dilemma: A Natural History of Four Meals* (New York: Penguin, 2006), 99–100.
2. Pollan, *Omnivore’s Dilemma*, 3.

Pollan, Michael. *The Omnivore’s Dilemma: A Natural History of Four Meals*. New York: Penguin, 2006.

Book: Two or more authors

1. Geoffrey C. Ward and Ken Burns, *The War: An Intimate History, 1941–1945* (New York: Knopf, 2007), 52.
2. Ward and Burns, *War*, 59–61.

Ward, Geoffrey C., and Ken Burns. *The War: An Intimate History, 1941–1945*. New York: Knopf, 2007.

Book: Four or more authors

For four or more authors, list all of the authors in the bibliography; in the note, list only the first author, followed by *et al.* (“and others”):

1. Dana Barnes et al., *Plastics: Essays on American Corporate Ascendance in the 1960s . . .*
2. Barnes et al., *Plastics . . .*

Book: Editor, translator, or compiler instead of author

1. Richmond Lattimore, trans., *The Iliad of Homer* (Chicago: University of Chicago Press, 1951), 91–92.
2. Lattimore, *Iliad*, 24.

Lattimore, Richmond, trans. *The Iliad of Homer*. Chicago: University of Chicago Press, 1951.

Book: Editor, translator, or compiler in addition to author

1. Gabriel García Márquez, *Love in the Time of Cholera*, trans. Edith Grossman (London: Cape, 1988), 242–55.
2. García Márquez, *Cholera*, 33.

García Márquez, Gabriel. *Love in the Time of Cholera*. Translated by Edith Grossman. London: Cape, 1988.

Chapter or other part of a book

1. John D. Kelly, "Seeing Red: Mao Fetishism, Pax Americana, and the Moral Economy of War," in *Anthropology and Global Counterinsurgency*, ed. John D. Kelly et al. (Chicago: University of Chicago Press, 2010), 77.
2. Kelly, "Seeing Red," 81–82.

Kelly, John D. "Seeing Red: Mao Fetishism, Pax Americana, and the Moral Economy of War." In *Anthropology and Global Counterinsurgency*, edited by John D. Kelly, Beatrice Jauregui, Sean T. Mitchell, and Jeremy Walton, 67–83. Chicago: University of Chicago Press, 2010.

Preface, foreword, introduction, or similar part of a book

1. James Rieger, introduction to *Frankenstein; or, The Modern Prometheus*, by Mary Wollstonecraft Shelley (Chicago: University of Chicago Press, 1982), xx–xxi.
2. Rieger, introduction, xxxiii.

Rieger, James. Introduction to *Frankenstein; or, The Modern Prometheus*, by Mary Wollstonecraft Shelley, xi–xxxvii. Chicago: University of Chicago Press, 1982.

Book published electronically

If a book is available in more than one format, cite the version you consulted. For books consulted online, list a URL; include an access date only if one is required by your publisher or discipline. If no fixed page numbers are available, you can include a section title or a chapter or other number.

1. Jane Austen, *Pride and Prejudice* (New York: Penguin Classics, 2007), Kindle edition.
2. Philip B. Kurland and Ralph Lerner, eds., *The Founders' Constitution* (Chicago: University of Chicago Press, 1987), accessed February 28, 2010, <http://press-pubs.uchicago.edu/founders/>.
3. Austen, *Pride and Prejudice*.
4. Kurland and Lerner, *Founder's Constitution*, chap. 10, doc. 19.

Austen, Jane. *Pride and Prejudice*. New York: Penguin Classics, 2007. Kindle edition.

Kurland, Philip B., and Ralph Lerner, eds. *The Founders' Constitution*. Chicago: University of Chicago Press, 1987. Accessed February 28, 2010. <http://press-pubs.uchicago.edu/founders/>.

Article in a print journal

In a note, list the specific page numbers consulted, if any. In the bibliography, list the page range for the whole article.

1. Joshua I. Weinstein, "The Market in Plato's *Republic*," *Classical Philology* 104 (2009): 440.
2. Weinstein, "Plato's *Republic*," 452–53.

Weinstein, Joshua I. "The Market in Plato's *Republic*." *Classical Philology* 104 (2009): 439–58.

Article in an online journal

Include a DOI (Digital Object Identifier) if the journal lists one. A DOI is a permanent ID that, when appended to <http://dx.doi.org/> in the address bar of an Internet browser, will lead to the source. If no DOI is available, list a URL. Include an access date only if one is required by your publisher or discipline.

1. Gueorgi Kossinets and Duncan J. Watts, "Origins of Homophily in an Evolving Social Network," *American Journal of Sociology* 115 (2009): 411, accessed February 28, 2010, doi:10.1086/599247.
2. Kossinets and Watts, "Origins of Homophily," 439.

Kossinets, Gueorgi, and Duncan J. Watts. "Origins of Homophily in an Evolving Social Network." *American Journal of Sociology* 115 (2009): 405–50. Accessed February 28, 2010. doi:10.1086/599247.

Article in a newspaper or popular magazine

Newspaper and magazine articles may be cited in running text ("As Sheryl Stolberg and Robert Pear noted in a *New York Times* article on February 27, 2010, . . .") instead of in a note, and they are commonly omitted from a bibliography. The following examples show the more formal versions of the citations. If you consulted the article online, include a URL; include an access date only if your publisher or discipline requires one. If no author is identified, begin the citation with the article title.

1. Daniel Mendelsohn, "But Enough about Me," *New Yorker*, January 25, 2010, 68.
2. Sheryl Gay Stolberg and Robert Pear, "Wary Centrists Posing Challenge in Health Care Vote," *New York Times*, February 27, 2010, accessed February 28, 2010, <http://www.nytimes.com/2010/02/28/us/politics/28health.html>.
3. Mendelsohn, "But Enough about Me," 69.
4. Stolberg and Pear, "Wary Centrists."

Mendelsohn, Daniel. "But Enough about Me." *New Yorker*, January 25, 2010.

Stolberg, Sheryl Gay, and Robert Pear. "Wary Centrists Posing Challenge in Health Care Vote." *New York Times*, February 27, 2010. Accessed February 28, 2010. <http://www.nytimes.com/2010/02/28/us/politics/28health.html>.

Book review

1. David Kamp, "Deconstructing Dinner," review of *The Omnivore's Dilemma: A Natural History of Four Meals*, by Michael Pollan, *New York Times*, April 23, 2006, Sunday Book Review, <http://www.nytimes.com/2006/04/23/books/review/23kamp.html>.
2. Kamp, "Deconstructing Dinner."

Kamp, David. "Deconstructing Dinner." Review of *The Omnivore's Dilemma: A Natural History of Four Meals*, by Michael Pollan. *New York Times*, April 23, 2006, Sunday Book Review. <http://www.nytimes.com/2006/04/23/books/review/23kamp.html>.

Thesis or dissertation

1. Mihwa Choi, "Contesting *Imaginaires* in Death Rituals during the Northern Song Dynasty" (PhD diss., University of Chicago, 2008).
2. Choi, "Contesting *Imaginaires*."

Choi, Mihwa. "Contesting *Imaginaires* in Death Rituals during the Northern Song Dynasty." PhD diss., University of Chicago, 2008.

Website

A citation to website content can often be limited to a mention in the text or in a note ("As of July 19, 2008, the McDonald's Corporation listed on its website . . ."). If a more formal citation is desired, it may be styled as in the examples below. Because such content is subject to change, include an access date or, if available, a date that the site was last modified.

1. "Google Privacy Policy," last modified March 11, 2009, <http://www.google.com/intl/en/privacypolicy.html>.
2. "McDonald's Happy Meal Toy Safety Facts," McDonald's Corporation, accessed July 19, 2008, <http://www.mcdonalds.com/corp/about/factsheets.html>.
3. "Google Privacy Policy."
4. "Toy Safety Facts."

Google. "Google Privacy Policy." Last modified March 11, 2009. <http://www.google.com/intl/en/privacypolicy.html>.
 McDonald's Corporation. "McDonald's Happy Meal Toy Safety Facts." Accessed July 19, 2008. <http://www.mcdonalds.com/corp/about/factsheets.html>.

Blog entry or comment

Blog entries or comments may be cited in running text ("In a comment posted to *The Becker-Posner Blog* on February 23, 2010, . . .") instead of in a note, and they are commonly omitted from a bibliography. The following examples show the more formal versions of the citations. There is no need to add *pseud.* after an apparently fictitious or informal name. (If an access date is required, add it before the URL; see examples elsewhere in this guide.)

1. Jack, February 25, 2010 (7:03 p.m.), comment on Richard Posner, "Double Exports in Five Years?," *The Becker-Posner Blog*, February 21, 2010, <http://uchicagolaw.typepad.com/beckerposner/2010/02/double-exports-in-five-years-posner.html>.
2. Jack, comment on Posner, "Double Exports."

Becker-Posner Blog, *The*. <http://uchicagolaw.typepad.com/beckerposner/>.

E-mail or text message

E-mail and text messages may be cited in running text (“In a text message to the author on March 1, 2010, John Doe revealed . . .”) instead of in a note, and they are rarely listed in a bibliography. The following example shows the more formal version of a note.

1. John Doe, e-mail message to author, February 28, 2010.

Snapshot from Michigan State University in East Lansing

- Listen ~~that~~ to others
 - ↳ Try to understand what they are saying
- Respect people's opinions even if you disagree
- Be polite when responding to opinions
 - Don't make faces or laugh at someone
 - Share different opinions and reasoning

Don't interrupt others



Pay attention

Respect others' opinions

Give everyone the opportunity to speak

Encourage others

Don't be judgemental

Give constructive feedback

Be nice

Object to comments, not people

RESPECT

- Don't talk over one another

- Don't put down other people's ideas

- Keep an open mind

- Pay Attention

- Participate in discussions

Give everyone opportunity to speak

Don't dominate discussion

