

TEXAS SOUTHERN UNIVERSITY

READINGS IN EUROPEAN/WORLD HISTORY:
INTRODUCTION TO SCIENCE AND TECHNOLOGY STUDIES

HIST 533 - 01H 22403 SPRING 2023 HYBRID

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I. COURSE DESCRIPTION

Directed readings on specified topics in European or world history. (This course may be taken more than once, but no more than three [3] times, as topics vary, with the permission of the instructor.)

Please note: This syllabus may be revised over the course of the semester. Changes to the syllabus will be announced on Blackboard.

II. PREREQUISITES

Graduate status or permission of the instructor.

III. COURSE OBJECTIVES

The late twentieth century saw a broad, cross-disciplinary critical turn, including post-marxism, post-structuralism, post-colonialism, post-modernism, and post-humanism, and post-humanities, inter alia, leading Ian Adam and Helen Tiffin to speculate what might await us “Past the Last Post” (for a background on twentieth-century critical studies, see my syllabus “Contemporary Critical Theory: Science, Language, and Culture” <http://rhart.org/courses/theory/>). Among these trends, perhaps the most productive and enduring is science and technology studies (ave atque vale, archaeology of knowledge, we hardly knew ye!).

This course offers an introduction to science & technology studies (STS), focusing on the twenty-first century (for a detailed syllabus on STS up through 2011, see Michael Lynch’s “Introduction to Science and Technology Studies” <http://stsnext20.org/wp-content/uploads/2011/04/Cornell-Lynch.doc>). We will cover a variety of issues including world and U.S. history, critical theory, race, gender, and globalization:

World history: Role of science and technology in world history: European imperialism, colonialism, and slavery; British Imperialism; American Imperialism; Asian 21st Century.

Critical theory: Methodologies from STS: sociology of scientific knowledge (SSK); feminist studies; post-humanism; anthropocene; critical race theory.

American century: science and technology studies; First Quantum Revolution and the Third Industrial Revolution (Digital Age, Information Age); globalization; environmental justice; digital gaps; technological bias; racism and sexism in STEM.

Asian century: Rise of China; Second Quantum Revolution; Fourth Industrial Revolution.

IV. STUDENT LEARNING OUTCOMES

Through successful completion of this course, students will achieve the following: ...

1. Demonstrate an understanding of the basic facts of world history—important social, political, economic, and cultural features.

V. REQUIRED AND RECOMMENDED TEXTS

Required Texts

The following required texts are available at the TSU Bookstore:

Richard Delgado and Jean Stefancic, *Critical Race Theory: An Introduction*, 4th ed., Critical America (2001; New York: New York University Press, 2023).

Donna J. Haraway, *When Species Meet*, vol. 3, Posthumanities (Minneapolis: University of Minnesota Press, 2008).

Sandra G. Harding, *Sciences from Below: Feminisms, Postcolonialities, and Modernities* (Durham: Duke University Press, 2008).

Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory*, Clarendon Lectures in Management Studies (Oxford: Oxford University Press, 2005).

Aihwa Ong and Stephen J. Collier, eds., *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems* (Malden, MA: Blackwell Publishing, 2005).

Recommended Texts

In addition, the following collections are recommended for reference:

Mario Biagioli, ed., *The Science Studies Reader* (New York: Routledge, 1999).

Ulrike Felt et al., eds., *The Handbook of Science and Technology Studies*, 4th ed. (Cambridge, MA: MIT Press, 2017).

VI. COURSE OUTLINE AND CALENDAR

Part I. World History

In Part I we will critically examine the technologies at the center of what history textbooks often refer to as the “Rise of the West”—European imperialism and colonialism, conquest of the Americas, Atlantic slave trade, and in the U.S., the Amerindian Holocaust. We will look the science and technology that led to these developments. That is, without which these developments would not have been possible, and subsequent technologies that led to their demise.

Week 1. Technologies of European Imperialism, Colonialism, and Slave Trade

What we call the “Rise of the West” was in fact a successive series of the rise and fall of European imperialist nations: first Portugal and Spain, then the Dutch Republic, followed by France and finally the British century (see below). This week we will look at the weapons, seafaring, and industry that led to the first wave of European imperialism and colonization.

Readings

William Hardy McNeill, *The Pursuit of Power: Technology, Armed Force, and Society since A.D. 1000* (Chicago: University of Chicago Press, 1982), selections.

Recommended

Geoffrey Parker, *The Military Revolution: Military Innovation and the Rise of the West, 1500–1800*, 2nd ed. (Cambridge: Cambridge University Press, 1996).

Week 2. The First Industrial Revolution and British Imperialism

This week we examine the developments in technology that led to the second wave of European imperialism and colonization: First Industrial Revolution and British Imperialism.

Readings

Daniel R. Headrick, *The Tools of Empire: Technology and European Imperialism in the Nineteenth Century* (New York: Oxford University Press, 1981), selections.

Recommended

Robert C. Allen, *The British Industrial Revolution in Global Perspective*, *New Approaches to Economic and Social History* (Cambridge: Cambridge University Press, 2009).

Week 3. The Second Industrial Revolution and Rise of American Imperialism

This week we explore the technological developments that led to the second industrial revolution in the U.S., which led to urbanization, industrialization, westward expansion, the final chapters for the Amerindian Holocaust, with result that the U.S. become the most powerful industrial nation in the world. America's isolation and wartime exports in the Great War and Second World War left the the U.S. the dominant superpower and ushered in the American Century.

Readings

E. J. Hobsbawm and Chris Wrigley, *Industry and Empire: From 1750 to the Present Day* (New York: New Press, 1999), selections.

Recommended

Daniel Pick, *War Machine: The Rationalisation of Slaughter in the Modern Age* (New Haven, CT: Yale University Press, 1993).

Part II. (Post- "Post") Provocations: STS, SSK, ANT, CRT, SEE, ETC

In Part II, we demystify our alphabet soup of provocations, including Sociology of Scientific Knowledge (SSK), Actor-Network-Theory (ANT), Studies of Expertise and Experience (SEE), et cetera (ETC).

Week 4. ANT

Readings

Latour, *Reassembling the Social*, selections.

Recommended

Bruno Latour, "Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern," *Critical Inquiry* 30, no. 2 (2004): 225-48.

Week 5. Feminisms

Readings

Harding, *Sciences from Below*, selections.

Recommended

Karen Michelle Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham: Duke University Press, 2007).

Week 6. Critical Race Theory

Readings

Delgado and Stefancic, *Critical Race Theory*

Recommended

Kimberlé Crenshaw, *Critical Race Theory: The Key Writings that Formed the Movement* (New York: New Press, 1995)

Week 7. Post-Human, Trans-species

Readings

Haraway, *When Species Meet*

Recommended

Rosi Braidotti, "Posthuman Critical Theory," in *Critical Posthumanism and Planetary Futures*, ed. Debashish Banerji and Makarand R. Paranjape (New Delhi: Springer, 2016), 13–32

Week 8. SEE

Readings

H. M. Collins and Robert Evans, "The Third Wave of Science Studies: Studies of Expertise and Experience," *Social Studies of Science* 32, no. 2 (2002): 235–96

Recommended

H. M. Collins and Trevor Pinch, *The Golem at Large: What You Should Know about Technology*, 2nd ed., Canto Classics (2002; Cambridge: Cambridge University Press, 2014)

Week 9. Globalization

Readings

Aihwa Ong and Stephen J. Collier, "Global Assemblages, Anthropological Problems," in *Global Assemblages*, 3–21

Recommended

Arjun Appadurai, *The Future as Cultural Fact: Essays on the Global Condition* (New York: Verso Books, 2013)

Spring Break March 14–18

Part III. Interventions / American Century

Human rights.

STS provides a conceptual theoretical basis for series of interventions in the American Century. Arranged thematically: environment, race, feminism, bioethics, technology,

Decline of the West, end of Western Imperialism, end of the (short) American Century, The Short American Century

Week 10. The First Quantum Revolution, Third Industrial Revolution, and the Military-Industrial-University Complex

Readings

Manuel Castells, *The Rise of the Network Society*, 2nd ed., vol. 1, *The Information Age: Economy, Society, and Culture* (1996; Chichester, West Sussex: Wiley-Blackwell, 2010)

Recommended

Hughes, Thomas P. *American Genesis: A Century of Invention and Technological Enthusiasm, 1870-1970*. Chicago, IL: University of Chicago Press, 2004, selections.

Krige, John. *American Hegemony and the Postwar Reconstruction of Science in Europe*. MIT Press, 2008, selections.

Week 11. Environmental Justice and Climate Change

Readings

Robert D. Bullard, *Dumping in Dixie: Race, Class, and Environmental Quality*, 3rd ed. (1990; Boulder, CO: Westview Press, 2000)

Recommended

Julian Agyeman, Robert D. Bullard, and Bob Evans, *Just Sustainabilities: Development in an Unequal World* (Cambridge, MA: MIT Press, 2003)

William Ascher, Toddi A. Steelman, and Robert G. Healy, *Knowledge and Environmental Policy: Re-Imagining the Boundaries of Science and Politics*, American and Comparative Environmental Policy (Cambridge, MA: MIT Press, 2010)

Week 12. Bioethics

Readings

Henry T. Greely, *CRISPR People: The Science and Ethics of Editing Humans* (Cambridge, MA: MIT Press, 2021)

Recommended

James H. Jones, *Bad Blood: The Tuskegee Syphilis Experiment*, New and expanded ed. (1981; New York: Free Press, 1993)

Week 13. AI, Robotics, Digital Ethics, and Digital Divides

Readings

Ruha Benjamin, *Race after Technology: Abolitionist Tools for the New Jim Code* (Medford, MA: Polity, 2019)

Recommended

Week 14. Colonizing the Cognitive: Intellectual Property, Credit, and Metrics

Readings

Mario Biagioli and Peter L. Galison, eds., *Scientific Authorship: Credit and Intellectual Property in Science* (New York: Routledge, 2003)

Recommended

Mario Biagioli, Peter Jaszi, and Martha Woodmansee, eds., *Making and Unmaking Intellectual Property: Creative Production in Legal and Cultural Perspective* (Chicago: University of Chicago Press, 2011)

Mario Biagioli and Alexandra Lippman, eds., *Gaming the Metrics: Misconduct and Manipulation in Academic Research*, Infrastructures (Cambridge, MA: MIT Press, 2020)

Week 15. Feminisms

Readings

Mar Hicks, *Programmed Inequality: How Britain Discarded Women Technologists and Lost Its Edge in Computing*, History of Computing (Cambridge, MA: MIT Press, 2017)

Recommended

Part IV. The Long Asian 21st Century

Week 16. Fourth Industrial Revolution and the Second Quantum Revolution

Readings

Klaus Schwab, *The Fourth Industrial Revolution* (New York: Crown Business, 2016), selections.

Recommended

Lars Jaeger, *The Second Quantum Revolution: From Entanglement to Quantum Computing and Other Super-Technologies* (Cham, Switzerland: Springer International Publishing, 2018).

Week 17. Rise of China

Readings

Roger Hart, “China, the U.S., and the Global Race for Quantum Supremacy” (presented at Wilson Center, March 2022).

Recommended

Lilly Irani, *Chasing Innovation: Making Entrepreneurial Citizens in Modern India*, Princeton Studies in Culture and Technology (Princeton, NJ: Princeton University Press, 2019)

VII. CLASS LOCATION AND ORGANIZATION

This class is **hybrid**.

- Blackboard address: <https://texasu.blackboard.com/webapps/login/>
- Student Username: last name + first name initial + last 4 digits of T#
- Student password is: 6 digit birth date (MMDDYY)

Students are responsible for all assigned readings and for all material presented.

VIII. TECHNOLOGY REQUIREMENTS

Students are required to use the following technology:

Computers Due to the nature of this course, all students will need access to a computer, internet connection, word processing software, and a PDF reader. Students who do not own a laptop or desktop computer can access computers on the TSU campus at various computer labs. For TSU computer lab locations and hours of operation, see <http://www.tsu.edu/about/administration/office-of-information-technology/academic-technology/index.html>. Students who are off campus can access computers through local branches of public libraries.

All students must have a TSU computer account, an e-mail account linked to Blackboard, and a TSU Blackboard account. If you do not have a TSU computer account, you must acquire one as soon as possible.

Blackboard Assignments and communications will be through Blackboard, available at <https://texasu.blackboard.com>

Students are required to check Blackboard daily.

E-mail Students are required to check their TSU e-mail daily.

Student engagement is mandatory. Students are responsible for logging onto the course regularly and completing assignments in accord with the guidelines posted. Students are responsible for reading all course announcements, readings, and materials presented online. Students are responsible for completing all assignments within the timeframes given. As this is a 3-credit course, students must be prepared to spend at least 14 hours per week on class readings and assignments.

IX. ASSIGNMENTS AND GRADING POLICIES

1. Class attendance is mandatory.
2. Students may choose one of the following two grading options:
 - (i) Before class write a brief summary of the readings. Notes on each of the readings should usually be two short paragraphs—one summarizing the central argument and one offering critical analysis—for a total of 2 to 3 pages per week. Students should complete notes for twelve of the fifteen weeks. These will be graded and will serve as the basis for class discussions. Grading: reading assignments 80%; class participation 20%.
 - (ii) Complete a final paper of 5000 words. Students must consult me as early as possible on possible topics. An outline and bibliography are due by April 1; a 1-2 pp. writing sample is due April 8; a first draft must be turned in by April 22; and the final draft is due May 5. Grading: final paper 80%; class participation 20%.
3. Final course grades will be assigned as follows: A+ 97-100; A 93-96; A- 90-92; B+ 87-89; B 83-86; B- 80-82; C+ 77-79; C 73-76; C- 70-72; D+ 67-69; D 63-66; D- 60-62; F below 60.
4. Make-up work will be permitted for documented emergencies. Students should provide documentation within one week of an absence. Athletes, band members, and members of other outside activities should submit official documentation from their coaches or directors within one week of an absence.

X. ADDITIONAL COSTS

This course has no additional costs.

XI. UNIVERSITY POLICIES

Attendance All students are expected to attend classes regularly.

Students who are dropped for nonattendance will not be reinstated. Students who intend to withdraw from the course must do so by the official last day to drop. You are required to inform your instructor of any excused absences within one week following the period of excused absence. Excused absences fall into two categories, mandatory and discretionary. Excused absences (mandatory): Students must be granted excused absences whenever they are representing the University in an official capacity and have been granted permission by the Office of the University's top Academic Office (Provost). Students are responsible for all work missed while representing the University. Students are responsible for requesting makeup work when they return. Faculty members shall work with students that miss course work while representing the University. Excused absences (discretionary): Students are responsible for providing the faculty member reasons for his or her absence. The faculty member then determines the validity of the reason(s) for the absence and whether the student is to be excused for the absence. Faculty members will consider the following reasons for absence as excusable: verified illness, death in a student's immediate family; obligation of a student at legal proceedings in fulfilling responsibility as a citizen; major religious holidays, and others determined by the faculty member to be excusable (e.g. elective University activities, etc.)

COVID COVID Center Reporting: All students are strongly encouraged to use campus services for COVID testing. If an individual tests at either of the university testing sites, their test result is on file

with the prevention center. If an individual tests at an external site, the test result must be reported to the campus COVID hotline via 713-313-5099 or the reporting link which can be accessed here. **If a student does not report to the hotline, faculty are not obligated to make accommodations due to COVID.**

Academic Integrity The *Texas Southern University 2019–2020 Undergraduate Catalog* states the following:

Students must maintain a high standard of honesty in their academic work. They should avoid all forms of academic dishonesty, especially the following:

- **Plagiarism.** The appropriation of passages, either word for word (or in substance) from the writing of another and the incorporation of these as one's own written work offered for credit.
- **Collusion.** Working with another person in the preparation of notes, themes, reports, or other written work offered for credit unless such collaboration is specifically approved in advance by the instructor.
- **Cheating on an Examination or Quiz.** Giving or receiving, offering or soliciting information, or using prepared material in an examination or testing situation is expressly forbidden. On examinations and quizzes students are expected (a) to remain in the examination room until the examination is finished, (b) to refrain from talking, and (c) to refrain from bringing notes and books into the examination room.
- **Impersonation.** Allowing another person to attend classes, take examinations or to do graded assignments for an enrolled student under his or her name is strictly forbidden.

A violator of any of the above offenses will incur severe disciplinary action ranging from suspension to expulsion from the University. Specific guidelines will be administered by each dean.

See <http://www.tsu.edu/registrar/pdf/2019-2020-undergraduate-catalog.pdf>, pp. 32 – 33 (emphasis in original).

Grade of I The grade of "I" is given only when a student's work is satisfactory in quality, but due to reasons beyond his or her control, the work has not been completed. The missing work may be a midterm or final examination, a term paper, or other work. It is not given in lieu of an F. The instructor will stipulate, in writing, at the time the grade is given the conditions under which the "I" may be removed. This temporary grade of "I" is non-punitive and semester hours for the course are not considered in the computation of the quality-point average. Removal must be within one calendar year after the "I" is assigned, or the "I" grade shall become an "F". The grade "I" is not assigned if the student must retake the course. In the event a student who earns a grade of "I" decides to retake the course, the student is required to pay for that course.

Title IX information Texas Southern University is committed towards encouraging and supporting a welcome inclusive university community where all community members enjoy a community free from sex discrimination, harassment and violence. As a result, you should know that university faculty members and staff are required to notify the University Title IX Coordinator of any instances of sex discrimination and harassment, sexual violence, dating violence, domestic violence, or stalking. Sharing this information ensures that those harmed are provided support resources. What this means is that as your professor, I am required to report any incidents that are directly disclosed to me, or of which I am somehow made aware. The University's Counseling Center is available to you if you want to speak with someone confidentially. Please visit the University's Counseling Center's website <https://www.tsu.edu/ucc> for additional information.

Student Accessibility Services Office (SASO) Statement Texas Southern University (TSU), Student Accessibility Services Office (SASO) provides individualized, reasonable accommodations for students with disabilities as defined by the Americans with Disabilities Act of 1990, the Americans with Disabilities Amendment Act of 2008, and Section 504 of the Rehabilitation Act of 1973.

Students who may need accommodations are asked to contact the Student Accessibility Services Office (SASO) at (713) 313-4210 or (713) 313-7691. The SASO office is located in the Student Health Center, room 140. Business hours are Monday through Friday from 8:00 a.m. to 5:00 p.m. Please note Instructors are not required to provide classroom accommodations without approved verification from the Student Accessibility Services Office (SASO). Please schedule an appointment during my office hours to discuss approved accommodation provisions.

TSU and SASO are committed to providing an inclusive learning environment. For additional information, please contact the SASO.