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Fall 2019

# HIST 365-001: Science and Technology in the Global South

Rosanna Dent

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# HIST 365: Science and Technology in the Global South

<b>Class Time &amp; location</b>	Tuesdays and Thursdays, 14:30-15:50 Faculty Memorial Hall, 412
<b>Instructor</b>	Rosanna Dent
<b>Pronouns</b>	She/her/hers
<b>E-mail</b>	rdent@njit.edu
<b>Office</b>	Cullimore Hall, 322
<b>Office Hours</b>	Tuesday 16:00-17:00; Thursday 13:00-14:00 and by appointment. Please sign up on my <a href="#">Google Cal</a> to assure a spot, but feel free to drop by too.
<b>Overview</b>	This course explores the history of science and technology in the Global South. We will examine how technical and scientific knowledge has been made, circulated, and used to various ends, with particular attention to colonial and postcolonial dynamics. Working with case studies from Latin America, Africa, and Asia spanning the period from 1500 to the late twentieth century, this course examines colonial exploration and extractivism, classification, race-making and race relations, infrastructure and transportation, economic development, architecture and design. We will look at science and technology as they relate to the exercise of power by colonizing forces, nationalist projects, and the people subjected to and resistant of these exercises of power.
<b>Prerequisites</b>	This course may be used to satisfy a three credit 300 level GER in History and Humanities. A grade of C or better in <a href="#">HUM 101</a> , <a href="#">HUM 102</a> and a 200 level Humanities or History course or their equivalents.
<b>Course Goals</b>	Students who successfully complete this course will be able to:  Raise pertinent questions regarding the political and social implications of science and technology in the Global South;  Identify and summarize the main idea and key arguments of a textual source;  Critically evaluate a source (whether primary or secondary), situating it in its historical context and interpreting its broader relevance for historical thinking.  Communicate these summaries, questions, and analyses in clear written and oral form.

Demonstrate information literacy through the use of appropriate source material and the ability to select and cite sources properly.

### Required Texts

Required:

All required readings will be available online on Canvas.

You are encouraged to print the readings and bring them to class.

Recommended:

Macqueen, Norrie. *Colonialism*. Routledge, 2014. Available at the NJIT Bookstore.

### Course Policies

#### Academic Integrity

Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the academic code of integrity policy that is found at: <http://www5.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf>.

Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. **Any student found in violation of the code by cheating, plagiarizing or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university.** If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at [dos@njit.edu](mailto:dos@njit.edu).

#### Citation Expectations

Any words taken directly from a written source (assigned reading, website, book, article...) or from another individual (interview, podcast, youtube...) must be in quotation marks and cited. ALWAYS. Failure to do this **constitutes plagiarism**.

You must use Chicago Manual of Style format for citations, either Author-Date or Notes-Bibliography. You should use the system you select consistently. Davida Scharf is an expert researcher and our librarian for the History Department. She has prepared online research guides that you may find useful. She is available for help during her office hours, or by appointment. Her contact information, calendar, and research guides are available here: <http://researchguides.njit.edu/scharf>.

#### Disability Services

Students who have special needs should contact NJIT's Student Disability Services to help procure accommodations in completing coursework. The center can be found at <http://www.njit.edu/counseling/services/disabilities.php>.

**Computers and Personal Electronic Devices**

Since reading on paper (rather than screens) and taking notes by hand have been shown (in peer reviewed scientific studies) to improve learning outcomes, students are strongly encouraged to print readings, read them on paper, and bring them to class in physical form.

I reserve the front row for students who find other people's electronic devices distracting – no electronic note taking in the front row please. If you choose to use a computer, tablet, or phone in class, I expect you to use these tools responsibly. No texting, no gchatting, no facebook, email etc. If I observe an improper use of devices, you will lose participation credit for that day. If students cannot conduct themselves without these distractions, I may ask you to leave or disallow the use of computers.

*Note: I reserve the right to make changes to the syllabus that I deem necessary.*

## Assignments and Grading

Please prepare all assignments in Times New Roman, size 12 font, with 1-inch margins, double spaced.

**Submission:** All assignments should be submitted electronically through canvas, which interfaces with turnitin.com, an online service used by NJIT instructors to detect plagiarism. Only the following file types are accepted: pdf, doc, docx. (I.e. Google docs are not accepted – make a pdf.) For some assignments you will also be asked to submit a printed version.

**Late Submissions:** Assignments (other than reading responses and presentations – see below) will lose one grade for every calendar day late (A to A-, A- to B+). Assignments will not be accepted more than 1 week late.

**Golden Ticket:** Life can be complicated for all of us at times. All students have one “Golden Ticket,” which can be used for a no-questions-asked 3-day extension on one major assignment. Simply indicate at the top of the first page that you are using your Golden Ticket, and you will not be marked down. If you use this on an assignment that is to be peer edited, it is your responsibility to give timely edits (the ticket only applies to the rough draft!) and to coordinate the editing of your work so as not to lose credit.

**Exceptional Circumstances:** If there are medical, family, or other pressing issues affecting your ability to complete class work, please be in touch with me. I can help most effectively if you get in touch with me early. I also strongly encourage you to reach out proactively to the Dean of Students’ office.

<b>Participation</b>	<b>(35%)</b>	<b>Grading Scale</b>
<b>Midterm Exam</b>	<b>(20%)</b>	A= 89.5 to 100
<b>Research Project</b>	<b>(45%)</b>	B+= 86.5 to 89.4
		B= 79.5 to 76.4
		C+= 76.5 to 79.4
		C=69.5 to 76.4
		D= 59.5 to 69.4
		F= 59.4 to 0

### **Participation (35%)**

Attendance and participation are central to your success in this course. Participation includes speaking, listening, and demonstrating careful preparation for class including completing all assigned reading. Full participation in this class includes:

- (a) All students will be required to post a **response to the readings** on Canvas by 14:20 on **Tuesday** of each week. I will post a prompt and guidelines for the response each week by Friday at noon. These responses must demonstrate both comprehension and critical thinking about the readings. Each week will be slightly different, but you will be required to quote and correctly cite the readings, and incorporate reflections in relation to the broader themes of the class. All responses that meet the requirements of the prompt will receive full credit. Responses that fail to meet all of the directions will receive partial credit. Late responses will receive half credit until Thursday at 14:20, after which they will no longer be accepted. Students can drop their two lowest reading response grades. (20% of final grade.)

- (b) **In-class participation** can take many forms, such as speaking during full-class discussion, group work and leadership during class activities, pre-prepared questions or comments, in-class writing assignments, among other options. You must be present to participate. If you tend to be shy or quiet in class I encourage you to talk to me about it early in the semester. (15% of final grade.)
- (c) All students **must attend office hours** or meet with me by appointment during the first six weeks of the semester.
- (d) Disruptive behavior such as texting, social media, etc. is distracting to the other members of the class and to me and will result in loss of all participation points for that class period.

If you are concerned about your participation, come speak with me during office hours as early as possible in the semester.

**Midterm Exam** (20% total) Tuesday October 15

The midterm will be an in-class exam comprised of IDs, short answer and essay questions. It will be designed to help you think synthetically about the material discussed in the first half of the class. All assigned material and class discussions are fair game for the exams.

**Research Project** (45%)

- Group and Project Topic (ungraded) (due Tues, Sep. 24)
- Annotated Bibliography and Site Plan (10%) (due Thurs, Oct. 24)
- Project Rough Drafts and Peer-editing (10%) (due Tues, Nov. 12)
- Final Website (25%) (due Tues, Dec. 10)

Your final research project for this course will be a group project. Together with three other students, you will create content for a website on the history of a mega-project. This research project will include identifying and analyzing primary sources, reading and synthesizing secondary sources, and creating accessible combinations of text and images that aim to teach other undergraduate-level readers about how the mega-project you analyze relates to broader course themes. Assignments are structured to build into your final project, and so taking each step seriously will help you succeed in your research. You will be evaluated both by me and by your group members.

## Schedule of Topics and Assigned Readings

\*\*Response papers for the listed readings are due on TUESDAY of the week listed\*\*

<p><b>Week 1</b></p> <p>Tues, Sep. 3</p> <p>Thurs, Sep. 5</p>	<p><b>Introduction</b></p> <p>**no reading response required**</p> <p>Basalla, George. "The Spread of Western Science." <i>Science</i> 156, no. 3775 (1967): 611–22. <a href="https://doi.org/10.1126/science.156.3775.611">https://doi.org/10.1126/science.156.3775.611</a>. [11 pages]</p> <p><i>What is the Global South?</i></p> <p><i>The Spread of Western Science*</i></p>
<p><b>Week 2</b></p> <p>Tues, Sep. 10</p> <p>Thurs, Sep. 12</p>	<p><b>North, South, East, West: Orientations</b></p> <p>Fan, Fa-ti. "The Global Turn in the History of Science." <i>East Asian Science, Technology and Society: An International Journal</i>, 6 (2012): 249-258. [10 pages]</p> <p>Norton, Marcy. "Subaltern Technologies and Early Modernity in the Atlantic World." <i>Colonial Latin American Review</i> 26, no. 1 (2017): 18–38. <a href="https://doi.org/10.1080/10609164.2017.1287322">https://doi.org/10.1080/10609164.2017.1287322</a>. [20 pages]</p> <p><i>Narrating History</i></p> <p><i>Fire, Chocolate, and Other Technologies</i></p> <p>NOTE: Friday September 13<sup>th</sup> is the last day to add or drop a course.</p>
<p><b>Week 3</b></p> <p>Tues, Sep. 17</p> <p>Thurs, Sep. 19</p>	<p><b>Colonial Origins</b></p> <p>Secondary Sources:</p> <p>Parrish, Susan Scott. "Diasporic African Sources of Enlightenment Knowledge." In <i>Science and Empire in the Atlantic World</i>, edited by James Delbourgo and Nicholas Dew, 281–310. New York: Routledge, 2007. [29 pages]</p> <p>Schiebinger, Londa. "Bioprospecting." In <i>Plants and Empire: Colonial Bioprospecting in the Atlantic World</i>, 73–104. Cambridge: Harvard University Press, 2004. [31 pages]</p> <p>Primary Source:</p> <p>Sweet, James H. <i>Domingos Alvares, African Healing, and the Intellectual History of the Atlantic World</i>. Chapel Hill: University of North Carolina Press, 2013, 172-176. <a href="http://ebookcentral.proquest.com/lib/rutgers-ebooks/detail.action?docID=655818">http://ebookcentral.proquest.com/lib/rutgers-ebooks/detail.action?docID=655818</a>. [5 pages]</p> <p><i>Go-betweens</i></p> <p><i>Indigenous Knowledges</i></p>

<p><b>Week 4</b></p> <p>Tues, Sep. 24</p> <p>Thurs, Sep. 26</p>	<p><b>Maps as Immutable Mobiles</b></p> <p>Secondary Sources:  Hostetler, Laura. "Qing Connections to the Early Modern World: Ethnography and Cartography in Eighteenth-Century China." <i>Modern Asian Studies</i> 34, no. 3 (2000): 623–62. [39 pages]  Safier, Neil. "An Enlightened Amazon, with Fables and a Fold-Out Map." In <i>Measuring the New World: Enlightenment Science and South America</i>, 57–92. Chicago: University of Chicago Press, 2008. [35 pages]</p> <p>Primary Source:  Selected Maps</p> <p><i>Constructing States</i>  <b>**Group and Project Proposals Due**</b></p> <p><i>Constructing Empires</i></p>
<p><b>Week 5</b></p> <p>Tues, Oct. 1</p> <p>Thurs, Oct. 3</p>	<p><b>The Order of Things</b></p> <p>Secondary Sources:  Foucault, Michel. <i>The Order of Things: An Archaeology of the Human Sciences</i>. New York: Vintage, 1994 [1966], Preface, xv-xxiv. [10 pages].  Heaney, Christopher. "How to Make an Inca Mummy: Andean Embalming, Peruvian Science, and the Collection of Empire." <i>Isis</i> 109, no. 1 (2018): 1–27. <a href="https://doi.org/10.1086/697020">https://doi.org/10.1086/697020</a>. [27 pages]</p> <p>Primary Source: Garcilaso de la Vega, <i>Royal Commentaries of the Incas, and general history of Peru, Book One</i>, trans. Harold V. Livermore (Austin: University of Texas Press, 1989 [1966]), 306-308. [Book Five, Chapter XXIX] [3 pages]</p> <p><i>Classification and Collection</i></p> <p><i>Library Visit (to be confirmed)</i></p>
<p><b>Week 6</b></p>	<p><b>People and Places on Display</b></p> <p>Secondary Sources:  Endersby, Jim. "'From Having No Herbarium.' Local Knowledge versus Metropolitan Expertise: Joseph Hooker's Australasian Correspondence with William Colenso and Ronald Gunn." <i>Pacific Science</i> 55, no. 4 (October 1, 2001): 343–58. <a href="https://doi.org/10.1353/psc.2001.0032">https://doi.org/10.1353/psc.2001.0032</a>. [15 pages]  Raj, Kapil. "Surgeons, Fakirs, Merchants, and Craftspeople: Making L'Empereur's Jardin in Early Modern South Asia." In <i>Colonial Botany: Science, Commerce, and Politics in the Early Modern World</i>, edited by Londa Schiebinger and Claudia Swan, 252-269. University of Pennsylvania Press, 2004. [15 pages].</p>



<p>Tues, Oct. 8</p> <p>Thurs, Oct. 10</p>	<p>Qureshi, Sadiyah. "Displaying Sara Baartman, the 'Hottentot Venus.'" <i>History of Science</i> 42, no. 2 (2004): 233–57. <a href="https://doi.org/10.1177/007327530404200204">https://doi.org/10.1177/007327530404200204</a>. [25 pages]</p> <p>Primary Source: <i>The Crystal Palace Exhibition; Illustrated Catalogue, London 1851</i>. Dover Pictorial Archive Series. New York: Dover Publications, 1970[1851]. [Selection]</p> <p><i>Museums and Gardens</i></p> <p><i>Displaying People, Displaying "Progress"</i></p>
<p><b>Week 7</b></p> <p>Tues, Oct. 15</p> <p>Thurs, Oct. 17</p>	<p><b>Midterm</b></p> <p>No reading or reading response. Review for Midterm.</p> <p><b>**Midterm**</b></p> <p>Wordpress training &amp; Group work</p>
<p><b>Week 8</b></p> <p>Tues, Oct. 22</p> <p>Thurs, Oct. 24</p>	<p><b>Speed and Travel</b></p> <p>Secondary Sources:</p> <p>Kerr, Ian J. <i>Engines of Change: The Railroads That Made India</i>. Westport, Conn: Praeger, 2006. Selection.</p> <p>Morus, Iwan Rhys. "'The Nervous System of Britain': Space, Time and the Electric Telegraph in the Victorian Age." <i>The British Journal for the History of Science</i> 33, no. 4 (2000): 455–75. <a href="https://doi.org/10.1017/S0007087400004210">https://doi.org/10.1017/S0007087400004210</a>. [20 pages]</p> <p>Seow, Victor. "Sites of Extraction: Perspectives from a Japanese Coal Mine in Northeast China." <i>Environmental History</i> 24, no. 3 (2019): 504–13. <a href="https://doi.org/10.1093/envhis/emz006">https://doi.org/10.1093/envhis/emz006</a>. [9 pages]</p> <p><i>Shrinking Time and Space</i></p> <p><i>Imperial Power, Subaltern Resistance</i></p> <p><b>**Annotated Bibliography and Site Plan Due**</b></p>
<p><b>Week 9</b></p>	<p><b>Modernism</b></p> <p>Secondary Sources:</p> <p>Saraiva, Tiago. "Anthropophagy and Sadness: Cloning Citrus in São Paulo in the Plantationocene Era." <i>History and Technology</i> 34, no. 1 (2018): 89–99. <a href="https://doi.org/10.1080/07341512.2018.1516877">https://doi.org/10.1080/07341512.2018.1516877</a>. [10 pages]</p> <p>López-Durán, Fabiola. "Picturing Evolution: Le Corbusier and the Remaking of Man." In <i>Eugenics in the Garden: Transatlantic Architecture and the Crafting of Modernity</i>, 144–88. Austin: University of Texas Press, 2018. [44 pages]</p>

<p>Tues, Oct. 29</p> <p>Thurs, Oct. 31</p>	<p>Primary Sources: Pedrosa, Andriano and Fernando Oliva. <i>Tarsila do Amaral: Cannibalizing Modernism</i>. São Paulo: MASP, 2019. [Selected paintings]</p> <p><i>Eugenics in the Global South</i></p> <p><i>The Cannibalistic Manifesto</i></p>
<p><b>Week 10</b></p> <p>Tues, Nov. 5</p> <p>Thurs, Nov. 7</p>	<p><b>Encountering Development</b></p> <p>Secondary Sources: Mitchell, Timothy. "Can the Mosquito Speak?" In <i>Rule of Experts: Egypt, Techno-Politics, Modernity</i>, 19–53. Berkeley: University of California Press, 2002. [34 pages] Escobar, Arturo. "The Problematization of Poverty: The Tale of Three Worlds and Development." In <i>Encountering Development: The Making and Unmaking of the Third World</i>, 21–54. Princeton: Princeton University Press, 1995. [33 pages]</p> <p>Primary Source: Cardoso, Fernando Henrique, and Faletto Enzo. <i>Dependency and Development in Latin America</i>. University of California Press, 1979. Selection.</p> <p><i>Historicizing Economics</i></p> <p><i>Dependency and Development</i></p> <p>NOTE: Monday November 11<sup>th</sup> is the last day to withdraw from a course.</p>
<p><b>Week 11</b></p> <p>Tues, Nov. 12</p> <p>Thurs, Nov. 14</p>	<p><b>Decolonization</b></p> <p>Secondary Sources: Hecht, Gabrielle. "Negotiating Global Nuclearities: Apartheid, Decolonization, and the Cold War in the Making of the IAEA." <i>Osiris</i> 21, no. 1 (2006): 25–48. <a href="https://doi.org/10.1086/507134">https://doi.org/10.1086/507134</a>. Mavhunga, Clapperton Chakanetsa. "Guerrilla Healthcare Innovation: Creative Resilience in Zimbabwe's Chimurenga, 1971–1980." <i>History &amp; Technology</i> 31, no. 3 (2015): 295–323. <a href="https://doi.org/10.1080/07341512.2015.1129205">https://doi.org/10.1080/07341512.2015.1129205</a>.</p> <p>Primary Sources: Fanon, Frantz. "Medicine and Colonialism," in <i>A Dying Colonialism</i>, 121-145. Grove Press, 1994 [1959].</p> <p><i>A Dying Colonialism</i> <b>**Rough Drafts of Projects Due**</b></p> <p><i>Decolonization</i></p>

<p><b>Week 12</b></p> <p>Tues, Nov. 19</p> <p>Thurs, Nov. 21</p>	<p><b>Nuclear Territory</b></p> <p>Secondary Sources:  Mitchell, M. X. "Offshoring American Environmental Law: Land, Culture, and Marshall Islanders' Struggles for Self-Determination During the 1970s." <i>Environmental History</i> 22, no. 2 (April 1, 2017): 209–34.  <a href="https://doi.org/10.1093/envhis/emw101">https://doi.org/10.1093/envhis/emw101</a>.  Osseo-Asare, Abena Dove. "'Atomic Lands': Understanding Land Disputes near Ghana's Nuclear Reactor." <i>African Affairs</i> 115, no. 460 (2016): 443–65.  <a href="https://doi.org/10.1093/afraf/adw021">https://doi.org/10.1093/afraf/adw021</a>. [22 pages]</p> <p>Primary Source:  U. S. Government Survey Mission to the Trust Territory of the Pacific Islands, and Anthony M Solomon. <i>The Solomon Report: Report by the U.S. Government Survey Mission to the Trust Territory of the Pacific Islands</i>. [s.l.: s.n.], 1963. [Selection]</p> <p><i>US Nuclear Empire &amp; Atomic Africa</i></p> <p><i>No class: Group work on projects</i></p>
<p><b>Week 13</b></p> <p>Tues, Nov. 26</p> <p>Thurs, Nov. 28</p>	<p><b>Project Meetings</b></p> <p>Group Meetings with Prof Dent</p> <p><b>Thanksgiving</b></p>
<p><b>Week 14</b></p> <p>Tues, Dec. 3</p> <p>Thurs, Dec. 5</p>	<p><b>State Surveillance</b></p> <p>Scott, James C. <i>Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed</i>. Yale University Press, 1998, 103-130.  Medina, Eden. <i>Cybernetic Revolutionaries: Technology and Politics in Allende's Chile</i>. Cambridge: MIT Press, 2011. [Selection]</p> <p><i>Building Techno-Futures</i></p> <p><i>The Laborers of Techno-Futures</i></p>
<p><b>Week 15</b></p> <p>Tues, Dec. 10</p> <p>Thurs, Dec 12</p> <p><b>Dec 14 - 20</b></p>	<p><b>Class Wrap-Up **Final Projects DUE**</b></p> <p><i>No class (Saturday Schedule)</i></p> <p><b>Final Exams</b></p>