



Dr. Victor Frankenstein at work in his laboratory (Courtesy of smithsonianmag.com.)

Dr. Nancy Paxton-Wilson

Office: Strode 302

Office Hours: Online TBA

Phone: 404.387.5411

Email: npaxton@clemsun.edu

Required Texts and Materials

- Articles or links appearing in Canvas
- Shelley, Mary. *Frankenstein: A New Edition for Scientists and Engineers*. David H Guston, Ed Finn, Jason Scott Robert. Cambridge, Massachusetts: The MIT Press, c2017. (E-book: *Online FREE through Cooper Library*)



(From the Publishers at MIT Press: *This new critical edition of Mary Shelley's Frankenstein was developed by leading scholars for aspiring scientists, engineers, and medical professionals. This unique framing will make this a core text in promoting and enhancing interdisciplinary dialogue on the nature, roles, and responsibilities of scientists and engineers in society.*)

Course Description

“some wondered if we had overreached”

Although science and technology appear seamlessly imbedded in our everyday life, few people take the time to critically analyze the complexities of the interactions among science, technology, and society. This course will inform students’ scientific and technological literacy through an examination of science and technology as constructs, the relationship between the two, and the societal impact on science and technology as well as the impact of science and technology on society. We will especially focus on the second of these through an exploration of societal anxiety in reaction to science and technology -- which has continually manifested itself since the 18th century when science and technology “exploded.” We will read short *excerpts* from popular texts such as Jonathan Swift’s *Gulliver’s Travels* and Mary Shelley’s *Frankenstein* as well as watch episodes from the Netflix show *Black Mirror*, etc. One module will be devoted to the ubiquitous nostalgic technology – the photograph. Another module explores the Technology of Architecture combined with the discipline of Psychology as it relates to Critical Prison Theory and the historical development of our current incarceration system. We will seek to formulate solutions that can lead to a consequential reduction to prison reform by addressing recidivism rates. The project explores penal systems within a global context that includes research on the Norway prison system. This CT2 course aims to provide a foundation of critical thinking about scientific and technological culture as it continues to challenge us to develop strategies for the future.



This Class is a Clemson Thinks2 Seminar

As a Clemson Thinks2 seminar (CT2), this course emphasizes the inculcation, development, and application of critical thinking skills. Cultivating critical thinking as both skillset and worldview is one of the primary goals we will strive toward through analysis of STS concerns, simultaneously reflecting the goals of the STS program and CT2.

CT2 Objectives

Critical thinking is a matrix of behaviors, skills, and attitudes that work in conjunction to produce better thinking. For our purposes, better thinking means, for any complex question,

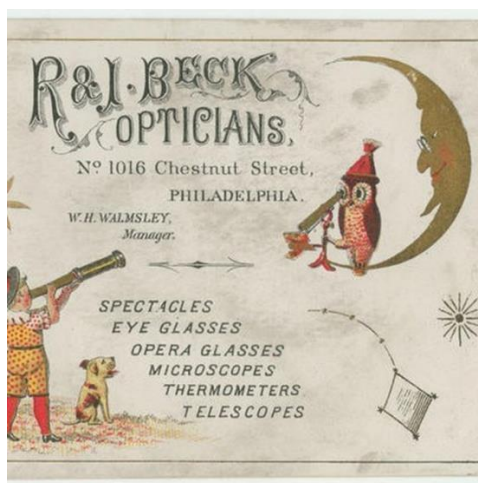
- Identifying key points of information, distinguishing what is necessary to consider from what is not
- Recognizing assumptions
- Differentiating opinion, fact, and justified claims
- Evaluating the applicability and quality of supposed evidence
- Discriminating between valid and invalid inferential claims
- Considering other viewpoints and related alternative responses
- Assessing the logical and practical consequences of a given response.

Our Additional STS Objectives

To provide students with:

- A broad, humanistic perspective comprehending the historical development of science and technology
- The analytic tools to assist students in making informed, critical judgements about the adoption of new technology or the support of scientific issues
- An understanding in regard to the effect science and technology has had on the popular mind as represented in literature and film

CT2 Learning Outcomes	Additional Learning Outcomes for this Class
<ul style="list-style-type: none"> •Explore complex challenges •Analyze problems using multiple lenses •Extrapolate from one conceptual context to others •Synthesize alternative solutions to multi-dimensional challenges •Communicate complex ideas 	<ul style="list-style-type: none"> •Define the purpose, characteristics, and historical development of science and technology; recognize intersections between scientific and technological development and social concerns. •Identify and explain historical and contemporary notions regarding the relationships between science, technology, and society, both those stated explicitly and held implicitly. •Examine the effects of historical and contemporary understandings of science, technology, and society and validly infer potential effects from past and current examples. •Assess the viability and value of past and present perspectives on science, technology, and society based upon available information and inference. •Synthesize and clearly express justified perspectives on STS issues in writing and through other media.



Distribution of Assignments

Daily Grades (including Annotated Bib entries on reading assignments) –15%

Team Discussions (4) – 10%

Commonplace Book Reflections – 15%

Global Case Study –10%

Photography Project --15%

Science and Technology of Incarceration Case Study –10%

Adobe Spark Final Project – 20%

Presentation -- 5%

Daily Grades:

I suggest that all readings should be printed so you can take notes or write directly on them. Completing the assigned readings is essential for your success in this course.

Commonplace Book (individual project): A journal chronicling your thoughts.

Global Case Study (team project): You will analyze a real-life scenarios: one involving global ethics based on a Korean egg donor science experimentation.

Photography Project (individual project): A short 3-5 page paper on a piece of engaging photographic work.



Edward Steichen (1879-1973), Kodak Ad, Vivian Maier (1926-2009) American Street Photographer

Science and Technology of U.S./Norway/Incarceration Case Study (team project): The ethics of the U.S. architecture/psychology of incarceration – including exploring diverse cultural perspectives through a comparative lens focused to Norway's prisons in order to generate recommendations that could lead to consequential action.

Adobe Spark Final Project -- Innovation (team project): Your team will create an Adobe Spark Page on a chosen innovation.

Presentations -- Showcasing your Adobe Spark page

Grading

A = 90 to 100% D = 60 to 69%

B = 80 to 89% F = 0 to 59%

C = 70 to 79%

Grades will be calculated on an A, B, C, D, F scale that utilizes plus and minus distinctions on individual projects within a given grade range. Please refer to the "General Grading Criteria for Professional Writing Assignments" handout for more details about this scale.

In all collaborative work, you will be asked to evaluate your peers (and they you). I will use these evaluations in my determination of individual grades for collaborative projects. In general, all members of a group receive the same grade. However, I realize there are instance where one or more members of a group "slack off" or are otherwise unprofessional and unproductive. This will not be tolerated. I reserve the right to lower the grades of poorly performing individuals within a group.

Academic Integrity

Academic Integrity – All infractions of the University policy on Academic Integrity will be reported to the Dean of Curriculum, in accordance with University regulations. No exceptions. For details, see pp. 28-9 of the Undergraduate Announcements.

Communication

Do not hesitate to discuss any questions or concerns with your instructor by making an appointment. Email communication is encouraged, but may be less effective than individual consultation on Zoom. I will answer emails within 24 hours.

Any email sent must meet minimum standards of courtesy, i.e., have some sort of greeting (even a "Hello" is sufficient), be written in clear, correct language, and have some sort of closing (again, something as simple as a "Thanks" is fine). Any email that does not meet these minimum standards will not be answered.

Your instructor may announce important information in class on Canvas. You are responsible for all information delivered by these means. It is your responsibility to ensure that your instructor has your preferred email address.

Please be specific in your subject line so that your email does not attach to other threads.

Work Submission Guidelines

Major assignments should be submitted **on the due date specified on the assignment sheet and in Canvas**. Since you are expected to produce high-quality professional documents, and a part of that quality is the appearance of your work, follow MLA guidelines

Late or Missed Work

Punctuality in meeting deadlines is crucial to successful academic writing. Absences do not excuse you from turning in work by or before the set due date. All work is due at the beginning of class on the due date. Emailed major assignments will not be accepted unless you obtain permission beforehand. Any work turned in after the first ten minutes of class will be considered late and penalized accordingly.

- < 1 Hour Late: Work submitted up to an hour after the end of class on the due date will have five (5) points deducted from the final grade for the assignment.
- < 1 Day Late: Work submitted more than an hour after the end of class on the due date, but before 1:05 PM on the following day, will have ten (10) points deducted from the final grade for the assignment.

- < 2 Days Late: Work submitted before 1:05 PM on the second day after the assignment is due will have twenty (20) points deducted from the final grade for the assignment.
- 3+ Days Late: Work submitted any time after 1:00 PM on the second day will receive an F (≤ 59) for the assignment. Failure to submit any work at all will result in a zero.

Although this might seem harsh, I must operate on deadlines so that I can grade *all* my student's work in a timely manner.

Conferencing

During the course of the semester, feel free to meet with me outside of class time on Zoom. The purpose of this conference will be to discuss your progress in the course and make sure that you are getting everything you need from me. Therefore, you should bring research materials, class notes, and anything else that you might want to talk to me about.

Withdrawal Policy

You will not be automatically dropped from the course if you do not attend class or fail to turn in more than one major assignment or project. The only way to withdraw from the course is to initiate the withdrawal process yourself. After this deadline, you cannot withdraw from the course except in cases of Hardship Withdrawal (the circumstances of which are specified by the university's Hardship Withdrawal policy), and whatever grade you earn for the course is the one I report to the university.

Incomplete Policy

Incompletes may be issued to students with a non-academic circumstance that prohibits the completion of the class. The terms of the incomplete must be worked out between the instructor and the student PRIOR to the final grade deadline.

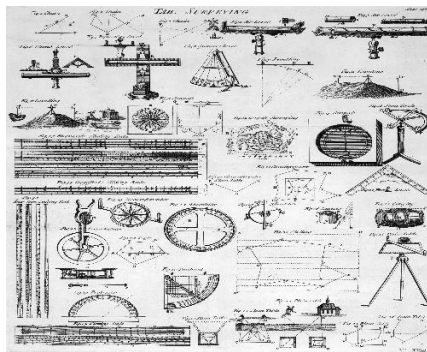
To issue a grade once the terms of the incomplete have been satisfied, the instructor follows the change of grade instructions. If the student does not complete the necessary work to earn a letter grade, the instructor does not have to do anything, and the incomplete will automatically convert to an "F" at the end of two semesters.

Writing Center

The Clemson Writing Center provides personal, one-on-one tutoring in order to help you at all levels of the writing process. Visit <https://www.clemson.edu/centers-institutes/writing/>. Sign up to make your appointment.

Students Accessibility Statement

Clemson University values the diversity of our student body as a strength and a critical component of our dynamic community. Students with disabilities or temporary injuries/conditions may require accommodations due to barriers in the structure of facilities, course design, technology used for curricular purposes, or other campus resources. Students who experience a barrier to full access to this class should let the professor know, and make an appointment to meet with a staff member in Student Accessibility Services as soon as possible. You can make an appointment by calling 864-656-6848, by emailing studentaccess@lists.clemson.edu, or by visiting Suite 239 in the Academic Success Center building. Appointments are strongly encouraged—drop-ins will be seen if possible, but there could be a significant wait due to scheduled appointments. Students who receive Academic Access Letters are strongly encouraged to request, obtain and present these to their professors as early in the semester as possible so that accommodations can be made in a timely manner. It is the student's responsibility to follow this process each semester. You can access further information here: <http://www.clemson.edu/campus-life/campus-services/sds/>

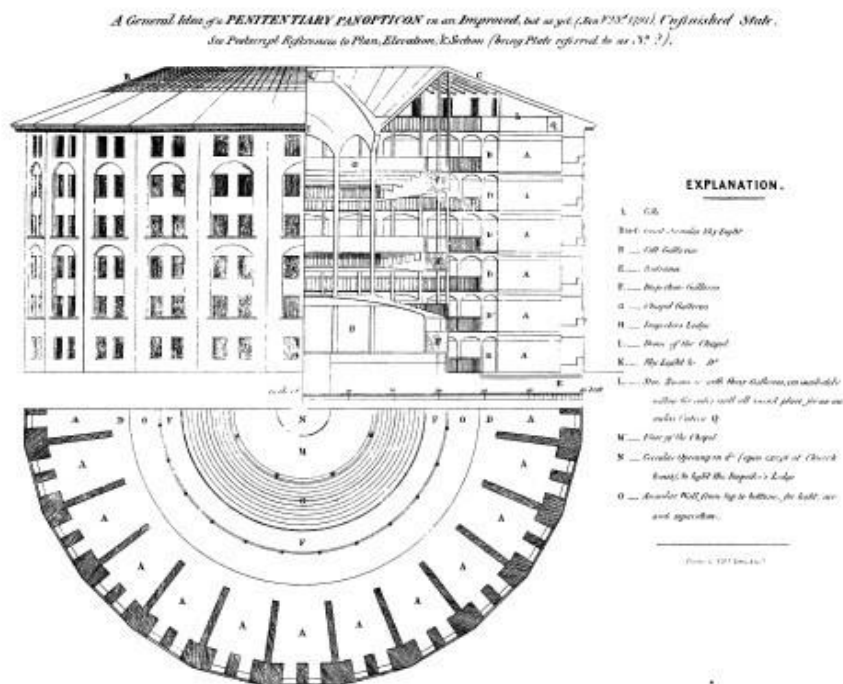


Tableis of Surveying, 1728 Cyclopedia: historical surveying instruments

Title IX

Title IX: Clemson University is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender, pregnancy, national origin, age, disability, veteran's status, genetic information nor protected activity in employment, educational programs and activities, admissions and financial aid. This includes a prohibition against sexual harassment and sexual violence as mandated by Title IX of the Education Amendments of 1972. This policy is located at <http://www.clemson.edu/campus-life/campus-services/access/title-ix/>. Ms. Alesia Smith is the Clemson University Title IX Coordinator, and the Executive Director of Equity Compliance. Her office is located at 110 Holtendorff Hall, 864.656.3181(voice) or 864.656.0899 (TDD).

Architectural Design for Jeremy Bentham's Panopticon



Course Schedule

This syllabus and the schedule below provide a general plan for the course. Deviations may be necessary. Students are responsible for noting and abiding by all announced changes. By remaining enrolled in the course beyond the first day, you acknowledge that you understand and accept the policies outlined in this syllabus.

**** Annotated Bib entries are due by class the day the reading is listed.**

**** Class Discussions are due at the end of class.**

****Commonplace Book Entries are officially due by end of class but you may work on them further when class is over.**

****All Readings available on “Readings” Page in Canvas.**

	Readings	In Class
Thursday, 13 January	<p>Read Syllabus (Front Page of Canvas Course)</p> <p>Read STS Analysis Tool Sheet (Access on “Readings” Page in Canvas)</p>	<p>Zoom</p> <p>Module I: Introduction</p> <p>Introductions: Syllabus and STS</p>
Tuesday, 18 January	<p>Read Critical Thinking, Commonplace Book, and Annotated Bibliography files</p> <p>Definitions -- See Definitions Page in Canvas – Locate a reputable online dictionary, look up these words, copy and paste the definitions into a file, cite the website you got your info from. Familiarize yourself with these new terms.</p>	<p>Zoom</p> <p>Commonplace Book Reflection 1</p> <p>Introductions: CT2: Critical Thinking, Commonplace Book, Annotated Bibs</p> <p>Definitions Due</p>
Thursday, 20 January	<p>Read Neil Postman “Five Things We Need to Know About Technological Change”</p> <p>Read Slack and Wise <i>Culture and Technology Primer</i> Chapters 2 “Progress” and 3 “Convenience”</p>	<p>Zoom</p> <p>Response to Slack and Wise Due</p> <p><i>Discussion Teams Assembled</i></p>
Tuesday, 25 January	<p>Read Seminal Article: Langdon Winner, “The Whale and the Reactor: A Search for Limits in an Age of High Technology”</p>	<p>Zoom</p> <p>Commonplace Book Reflection 2</p> <p>Module 2: General Historical Context</p> <p>The Royal Society Early Satirical Reactions: 1666 Excerpt from Margaret Cavendish’s <i>The Blazing World</i> 1726 Excerpt from Jonathan Swift’s <i>Gulliver’s Travels</i></p> <p>European Print Culture--The Printing Press: The Gutenberg Revolution and The Spread of Printing Presses</p>

		Team Discussion 1: Langdon Winner, “The Whale and the Reactor: A Search for Limits in an Age of High Technology”
Thursday, 27 January	Seminal Articles: Leo Marx and Merritt Roe Smith, “The Dilemma of Determinism” Leo Marx “Technology: The Emergence of a Hazardous Concept”	<i>Zoom</i> <i>Annotated Bib</i> Leo Marx and Merritt Roe Smith, “The Dilemma of Determinism” Team Discussion 2: Leo Marx “Technology: The Emergence of a Hazardous Concept”
Tuesday, 1 February	Seminal Article: Read Grave Robbers in Pages Excerpt from MIT Mary Shelley’s <i>Frankenstein</i> Read bottom of pg. 19—25, chapter II and III plus all footnotes. Also pg. 41-44. Read Slack and Wise <i>Culture and Technology Primer</i> Chapter 5 “Control” – Read online version available on Clemson Library website. Seminal Article: Neil Postman’s <i>Technopoly</i> , “The Judgement of Thamus”	<i>Zoom</i> <i>Commonplace Book Reflection 3</i> Module 3: Early Science and Medicine Mary Shelley’s <i>Frankenstein</i> Team Discussion 3: Neil Postman’s <i>Technopoly</i> , “The Judgement of Thamus”
Thursday, 3 February	Articles from MIT <i>Frankenstein</i>: Johnson, “Traumatic Responsibility” Douglas’s “The Bittersweet Taste of Technical Sweetness”	Robert DeNiro film: <i>Frankenstein</i> <i>Two Annotated Bibs</i> Johnson, “Traumatic Responsibility” and Douglas’s “The Bittersweet Taste of Technical Sweetness”
Tuesday, 8 February	Seminal Article: Oscar Handlin’s “Science and Technology in Popular Culture”	<i>Commonplace Book Reflection 4</i> Module 4: Modern Science Team Discussion 4: Oscar Handlin’s “Science and Technology in Popular Culture”
Thursday, 10 February	Seminal Article: Leo Marx’s “Does Improved Technology Mean Progress?”	<i>Annotated Bib</i> Leo Marx’s “Does Improved Technology Mean Progress?” TED Talks: Anthony Atala, “Printing a Human Kidney”

		<p>Jack Choi, "On the Virtual Dissection Table"</p> <p>P.W. Singer, "Military Robots and the Future of War"</p> <p>Elon Musk: Technology Innovator</p>
Tuesday, 15 February		<p><i>Commonplace Book Reflection 5</i></p> <p><i>Watch Black Mirror: Playtest (Season 3 Episode 3 Netflix)</i></p>
Thursday, 17 February	<p>South Korean Stem Cell Research Case Study: http://www.umass.edu/sts/ethics/cases.html</p>	<p>Global Team Case Study Introduced: Recruitment of Egg Donors by South Korean Stem Cell Researchers</p>
Tuesday, 22 February		<p><i>Commonplace Book Reflection 6</i></p> <p>Team Case Study</p>
Thursday, 24 February	No Class	No Class
Tuesday, 1 March		<p><i>Commonplace Book Reflection 7</i></p> <p>Module 5: Photography</p> <p><i>Andy Warhol Documentary</i> <i>Andy Warhol as Photographer (Polaroids)</i></p> <p>Team Case Study Due</p>
Thursday, 3 March	<p>Susan Sontag, Excerpt from <i>On Photography</i> (handout)</p> <p><i>Seminal Article:</i></p> <p>From <i>The New Yorker</i>: <i>Anthony Lane's "Names and Faces: The Portraits of Julia Margaret Cameron"</i></p> <p><i>Marc Olivier's "George Eastman's Modern-Age Stone Family: Snapshot Photography and the Brownie" Page in Canvas</i></p>	<p>Introduction to Photography Project</p> <p>Analog vs. Digital:</p> <p>https://www.bhphotovideo.com/explora/photography/tips-and-solutions/the-pros-and-cons-of-film-vs-digital-photography-for-beginners</p> <p>https://thedarkroom.com/film-vs-digital-comparison/</p> <p><i>Annotated Bib Marc Olivier's "George Eastman's Modern-Age Stone Family: Snapshot Photography and the Brownie"</i></p>
Tuesday, 8 March	<p><i>Guest Speaker Kathy Edwards from Clemson's Gunnin Library</i></p>	<p><i>Commonplace Book Reflection 8</i></p> <p><i>Guest Speaker Kathy Edwards from Clemson's Gunnin Library</i></p> <p><i>Explore Clemson Library:</i></p>

		https://clemsan.libguides.com/c.php?g=230406&p=7673381
Thursday, 10 March	Seminal Article: Michel Foucault, Excerpt from <i>Discipline and Punish</i> “Panopticon” Chapter 3 ONLY!!! Jeremy Bentham, Panopticon	Module 6: Science and Technology of Incarceration Sterling Ruby California Prison Photography https://www.easternstate.org/ Annotated Bib Michel Foucault, Excerpt from <i>Discipline and Punish</i> “Panopticon”
Tuesday, 15 March	Thomas McMullan, “What does the panopticon mean in the age of digital surveillance?” Yvonne Jewkes, “The Aesthetics and Anaesthetics of Prison Architecture”	Commonplace Book Reflection 9 New Teams Assigned Prison Case Study Introduced: Ethics of Incarceration/Multiple World View U.S. and Norway Incarceration Project/Final Spark Project Team Assignments Annotated Bib Yvonne Jewkes, “The Aesthetics and Anaesthetics of Prison Architecture”
Thursday, 17 March	Eric Schlosser, “The Prison-Industrial Complex”	Annotated Bib Eric Schlosser, “The Prison-Industrial Complex” Watch: <i>Quiet Rage: The Stanford Prison Study</i> Photography Project Due
March 21- 25	Spring Break	Spring Break
Tuesday, 29 March		Commonplace Book Reflection 10 Episode from <i>Rectify</i> (on Netflix)
Thursday, 31 March	Click on links: Norway’s Halden Prison: The Radical Humaneness of Norway's Halden Prison Benko, Jessica . <i>New York Times (Online)</i> , New York: New York Times Company. Mar 26, 2015. In Norway, A Prison Built On Second Chances.(Halden Maximum Security Prison in Norway) https://www.motherjones.com/crime-justice/2017/07/north-dakota-norway-prisons-experiment/	Prison Case Study

Tuesday, 5 April	Thomas Ugelvik's "Prison Size and Quality of Life in Norwegian Closed Prisons in Late Modernity"	<i>Commonplace Book Reflection 11</i> Prison Case Study
Thursday, 7 April		Prison Case Study Prison Case Study Due
Tuesday, 12 April		<i>Commonplace Book Reflection 12</i> Module 7: Final Project Adobe Spark Page
Thursday, 14 April		Team Assignments Team Adobe Spark Meeting
Tuesday 19 April	Read Slack and Wise <i>Culture and Technology Primer</i> Chapters 6 "Luddites" and Chapter 8 "The Unabomber"	<i>Final Commonplace Book Reflection 13</i> Team Adobe Spark Meeting Commonplace Books Due
Thursday 21 April	<i>Spark Page Presentations</i>	<i>Spark Page Presentations</i>
Tuesday 26 April	<i>Spark Page Presentations</i>	<i>Spark Page Presentations</i>
Thursday 28 April	<i>Spark Page Presentations</i>	<i>Spark Page Presentations</i>



Nullius in verba

Latin for "on the word of no one" or "take nobody's word for it" -- the motto of the Royal Society, established around 1652.