

History 2198B

Untold Science

Winter 2025

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This is a **draft** outline. Please see the course site on OWL Brightspace for a final version.

Course Description

We look inside the black boxes of science and technology to see how they are constructed. Who gets credit for invention and discovery? Who gets overlooked? And why? We go through a history of science and technology while simultaneously exploring its boundaries. Something we'll consider are: How do oddities, marvels, and monsters get incorporated into the order of nature? How and why do we classify things the way we do? Is a whale a fish? And what's the relation between art, science and technology?

Learning Outcomes

By the end of this course students will be able to:

- Explain how science, technology, and society influence each other.
- Articulate how culture and society influence science and technology and vice versa.
- Understand core concepts of STS (Science and Technology Studies).
- Synthesize historical and scientific information.
- Understand different interpretations of history.
- Understand how the history of science and technology is relevant to current issues.

Methods of Evaluation

Assessment	Weight	Due Date
In-Class Test	20%	Friday, Feb 7
Summary and Reflection	20%	Monday, March 3 to Friday, March 7
Participation	15%	
Index Cards	10%	
Final Exam	35%	During April Exam Period (April 7 -30)

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In-Class Test

The test will take place during class time on Friday, Feb 7. It will consist of providing information of key terms from lecture and reading material up until the week of the test.

Summary and Reflection

You will be given a scientific research article AND a history article related to the science article. You must summarize the research article in your own words for a general audience AND provide a short reflection on your thoughts about the experiment and its history with references to both articles. The assignment should be between 500-750 words. You will be given a flexible deadline and it will be due to OWL Brightspace anytime between Monday, March 3 and Friday, March 7 by 5pm EST.

Participation

Each week a portion of the class will be devoted to a discussion of the lecture materials and any assigned reading (if applicable). You must contribute to the discussion.

Index Cards

Each week an index card will be handed out at the start of the lecture and you will answer the question provided. Then, return the filled-out card at the end of lecture.

Final Exam

The final exam will be administered during the April Exam Period, and will cover the lecture and reading material from the In-Class Test until (and including) the final lecture.

Make-up tests, midterms, and exams can only be approved by Academic Counselling. Please see https://history.uwo.ca/undergraduate/program_module_information/policies.html for department procedures and requirements involving make-up tests and exams.

Absences and Late Assignments:

Attendance will be taken at all lectures. You may miss up to one class without penalty or explanation; after that, each lecture or tutorial missed will reduce your Participation Grade and Index Card Grade. Please see the Department of History's Undergraduate Policies and Statements for procedures involving missed tests and exams. Make-up exams can only be approved by Academic Counselling

The Summary and Reflection should be uploaded to our course OWL Brightspace site. It has a flexible deadline and **is due between Monday, March 3 to Friday March 5 at 5pm**. The Summary and Reflection handed in after that but before the following Friday at 5 pm will be penalized 10%. The Summary and Reflection handed in after that but before the last day of classes (Friday, April 4) will be penalized 20%. No assignments will be accepted after the last day of classes. Note that late assignments may be returned late and receive less feedback.

Course Materials

All readings are available either through Western's library or open access, or available through the courses OWL Brightspace site.

Course Schedule and Readings

The course spans the Big Bang to present day, but the majority of the time will be spent from the 10th-20th centuries.

Overview:

- Week 1: Introduction to Science and Technology Studies
- Week 2: Origins of the universe and evolution of life
- Weeks 3-4: Religious thought and our understanding of the Solar System
- Week 5: War, science and technology
- Week 6: Who participates and who pays
- Weeks 7-9: The boundaries of science
- Weeks 10-12: Science and the public sphere

Week 1: Introduction (Jan 10)

The first lecture will consist of a brief introduction to the course, assignments, and ideas in science and technology studies such as what constitutes “good” science and the experimenters regress. We will also discuss analyzing sources critically.

Week 2: Where it all Began (Jan 17)

The lecture is about the origins of the universe, stars, planets, the Earth, and life. It’s about tackling the idea when history begins, and the concept of Big History.. We will also discuss modern endeavours to learn about the origins of life and how the research (and history in general) is presented to broader audiences, and why.

Week 3: The Heavens and the Earth... (Jan 24)

This week will be about how different civilizations and religions throughout history understood the cosmos and our planet. We will discuss different theories of the universe, the solar system, life, etc. throughout history and how they changed and evolved

Week 4: World Religions, War, Science and Technology (Jan 31)

This week be a continuation of the previous week but will focus on how religion led to new technology. We will then move on to how war has influenced science and technology, and vice versa. It will examine technologies and science developed during, and *for*, war and how they’ve made their way into society. We will discuss various technologies associated with wars, why they were created, and the societal impact. We will also discuss how events like Operation Paper Clip relate to science.

Week 5: In-Class Test (Feb 7)

The entirety of the time will be devoted to writing the In-Class Test.

Week 6: Patronage and Funding (Feb 14)

Reading Week (Feb 15 – Feb 23)

Week 7: The Weird and the Wonderful (Feb 28)

The majority of this week, if not all, will be a lecture on how the experience of wonder stimulated discovery by forcing people to look for ways to incorporate oddities and marvels into the order of nature. We will delve into why people were fascinated with the unknown and otherworldly, and how it influenced science and the development of technology.

Week 8: Plagues, Disease, and.... Vampires? (March 7)

This week will be a continuation of the previous week, but with a focus on disease. The lecture will cover how disease and plagues influenced society, the various ideas to find solutions, and how it all influenced medical knowledge and technology. We will discuss the idea of how monsters relates to advances in medicine and how we think of modern Western medicine.

Week 9: That's not a Fish! (March 14)

This week will be a lecture on how scientists classify things. Particularly, it will look at a court case that examined if a whale is a fish. We will discuss why the case is important and what it tells us about science and society's influence. We will then discuss consequences of classification and how they were used for racial inequality.

Week 10: Art and Science (March 21)

We will look at the relation between art and science. It delves into how artists, scientists, and engineers have worked together throughout history, and how art and science influence public perception.

Week 11: The Great Blue Marble? Or the Pale Blue Dot? (March 28)

We'll examine the role of science and technology on the environment. It will discuss how science and technology has changed our perceptions of Earth, how technology is used, and how we arrived at our current environmental issues. We will also examine how the image of the Earth has been used for various projects and initiatives. We will also discuss what happens to our technological waste, and what it tells us a about science, technology, and society

Week 12: Science PR (April 4)

This week will be about the loss of authority and decay of the concept of truth. How do science and technology fare in a world of fake news and alternate facts? We well also spend a portion of the class time preparing for the Final Exam.

Additional Statements

The use of generative AI tools, such as ChatGPT, is permitted in this course for activities such as brainstorming and refining your ideas, drafting an outline to organize your thoughts, or checking grammar and style. Any use of such tools should be clearly acknowledged and explained. If in doubt, please ask me for clarification.

Please review the Department of History's shared policies and statements for all undergraduate courses (https://history.uwo.ca/undergraduate/program_module_information/policies.html) for important information regarding accessibility options, make-up exams, medical accommodations, health and wellness, academic integrity, plagiarism, and more.

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