

**BACHELOR OF ARTS & SCIENCE
TRENT UNIVERSITY**

**ASCI 1000Y: KNOWING AND WONDERING
2015-16 FW
Peterborough**

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Course Description:

This course provides an introduction to the study of the arts and sciences by exploring both common ground and divergencies in the artistic and scientific ways of knowing the world and ourselves. It examines the roles of imagination and reasoning and how these relate to each other in different historical and societal contexts. Throughout the year, students will learn about the origins of arts and sciences in Western society, the development of distinct methods of inquiry in the humanities and sciences, different views on the nature of science, and the complex interaction between science and society, including the challenges in communicating science to the public. The course has a broad interdisciplinary focus and integrates perspectives from various disciplines such as history, science and technology studies, philosophy, sociology, communication and cultural studies, literary studies, and art history. As such, it emphasizes the value of combining different ways of knowing and understanding individuals, social structures, and natural and built environments.

Course Pre-requisites:

Open only to students in the BAS program or the Journalism program.

Required Texts:

The texts can be purchased at the Trent University Bookstore. Please buy the editions specified:

Castel, Boris, and Sergio Sismondo, *The art of science*. Second edition. University of Toronto, 2008.

Ede, Andrew, and Lesley B. Cormack. *A history of science in society: from philosophy to utility*, Second Edition. University of Toronto Press, 2012.

Bucchi, Massimiano, and Brian Trench, eds. *Handbook of public communication of science and technology*. Routledge, 2008.

Required Novels:

Any edition of the required novels can be used. The novels are also freely available to read online or download.

Aldous Huxley. *Brave New World*. (1931)
<http://www.huxley.net/bnw/>

Mary Shelley. *Frankenstein; or, the Modern Prometheus* (1818)
<https://www.gutenberg.org/files/84/84-h/84-h.htm>

Recommended Texts:

The following texts can be found on reserve at Bata Library, as PDFs on the course Blackboard page, or are freely available online.

Engelhardt, Hugo Tristram, and Arthur L. Caplan. "Introduction," *Scientific controversies: Case studies in the resolution and closure of disputes in science and technology* (Cambridge University Press, 1987), pp. 1-23.

Friedman, Michael. "On the sociology of scientific knowledge and its philosophical agenda." *Studies in History and Philosophy of Science Part A* 29.2 (1998): 239-271. Available at <http://wsblog.iash.unibe.ch/wp-content/uploads/Friedman.pdf>

Haraway, Donna. "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century," in *Simians, Cyborgs and Women: The Reinvention of Nature* (New York; Routledge, 1991), pp.149-181. Available at <http://www.egs.edu/faculty/donna-haraway/articles/donna-haraway-a-cyborg-manifesto/>

Shapin, Steven, and Simon Schaffer. "Introduction," in *Leviathan and the air-pump* (Princeton: Princeton University Press, 2011) <http://press.princeton.edu/chapters/i9440.pdf>

Desser, David. "The New Eve: The Influence of *Paradise Lost* and *Frankenstein* on *Blade Runner*," in Kerman, Judith (ed.) *Retrofitting Blade runner: Issues in Ridley Scott's Blade runner and Philip K. Dick's Do androids dream of electric sheep?* (Popular Press, 1991)

Blackboard:

This course is supported by a Blackboard page. This resource will provide students with access to course materials such as the syllabus, lecture notes, course readings in electronic format, assignment descriptions, changes in class schedule, and other relevant information. Please check the Blackboard page and your Trent email once a week.

Course Format:

Please check <http://www.trentu.ca/timetable/> to confirm times and locations.

Type	Day	Time	Location
Lecture	Friday	9:00 am - 10:50 am	BL 103
Seminar ASCI-1000Y-A-Y01	Friday	11:00 am - 11:50 am	BL 401
Seminar ASCI-1000Y-A-Y02	Friday	12:00 pm - 12:50 pm	BL 401
Seminar ASCI-1000Y-A-Y03	Friday	14:00 pm - 14:50 pm	BL 401
Seminar ASCI-1000Y-A-Y04	Friday	15:00 pm - 15:50 pm	BL 401

Learning Outcomes:

Overall, this course aims to introduce students to the key objectives of the BAS Program and to provide a foundation for further studies in the program. By the end of the course, students will have:

- An awareness of the nature of art and science as historical, social, and cultural practices;
- An understanding of the origins of the arts and sciences in Western society;
- An awareness of the differences and common ground in the modes of inquiry between arts and sciences;
- An understanding of the tensions between science, technology and society;
- An appreciation for the value of combining different approaches to knowledge;
- An awareness of the challenges that exist in communicating science to the public;
- Ability to analyze and contextualize texts from diverse disciplines;
- Ability to conduct independent research, gather, review, evaluate, and interpret evidence;
- Ability to communicate effectively the results of their studies and analysis.

Course Evaluation:

Normally **at least 25%** of the grade in an undergraduate half-credit course offered in the Fall/Winter academic session must be determined and made available by the final date for withdrawal. **Fall 2015, final date for withdrawal is November 10, 2015. Winter 2016, final date for withdrawal is March 3, 2016.** For full-year courses **at least 25%** of the grade must normally be determined and made available before the **mid-year review in January**. No final examination is worth more than 50% of the final grade. With the exception of laboratory examinations in the sciences, no in-class tests or final examinations which are worth more than 10% of the final grade may be held during the last two weeks of classes in the Fall or Winter term.

Type of Assignment	Weighting	Due Date
Reading Summary	5%	23 October 2015
Article Analysis	5%	27 November 2015
Winter Exam	20%	TBA
Essay Proposal and Annotated Bibliography	15%	22 January 2016
Final Essay	20%	18 March 2016

Final Exam	20%	TBA
Attendance and Participation	15%	Throughout the year

Reading Summary (Due at the beginning of class on 23 October 2015)

Students will write a review of the novel *Brave New World* by Aldous Huxley. This literary review can include the following components: 1) a brief summary the plot and main characters of the novel; 2) main themes/ideas of the work; 3) the context in which the novel was written; 4) evaluation of the author’s writing and persuasiveness. The review should not exceed 1000 words in length. Excerpts from the book could be used to support the discussion and should be cited using parenthetical references. Footnotes should be used for citations of any additional works. Marks will be given for both analysis and writing style, including grammar and spelling.

Article analysis (Due at the beginning of class on 27 November 2015)

Students will write a review of the “Introduction,” in *Leviathan and the Air-Pump* by Steven Shapin and Simon Schaffer. The article review will summarize the authors’ main arguments and explain the context (e.g., the authors’ background and subsequent reception of the work). It will further evaluate the arguments made by the authors. This review should not exceed 1000 words. Passages from the article could be used to support the discussion and should be cited using parenthetical references. Footnotes should be used for citations of any additional works. Marks will be given for both analysis and writing style, including grammar and spelling.

Proposal and Annotated bibliography (Due at the beginning of class on 22 January 2016)

Students will develop a proposal and annotated bibliography for an essay on a topic relevant to the course major themes. The proposal will present an outline, approximately two pages double-spaced, of the topic and arguments of the essay, methodology used and expected conclusions. It should include a two-page annotated bibliography of five academic sources for the paper (e.g., peer reviewed journal articles, scholarly books, credible web-based sources). Annotations should not exceed 100 words in length each, and should clearly state the relevance of each source to the proposed topic. *A detailed description of this assignment, including suggested topics, will be provided in the fall term.*

Final Essay (Due at the beginning of class on 18 March 2016)

Based on the proposal and feedback received from the instructor, students will write an essay of 3000 words. The word count should exclude the abstract and the bibliographical references, as well as any tables and figures. The papers should be **formatted in accordance with** the APA’s 6th edition style guide, e.g. double spaced on standard-sized paper (8.5" x 11") with 1" margins on all sides, left aligned, font 12 pt Times New Roman, and consist of four major sections: the **Title Page**, **Abstract**, **Main Body**, and **References**. Students may use the following electronic resource on the APA formatting and style guide: <http://owl.english.purdue.edu/owl/resource/560/01/>

Exams (dates will be announced in class and on Blackboard)

Two written exams will be held at the end of the Fall and Winter terms, each worth 20% of the final mark. The exams will be two hours in duration and will consist of multiple choice and short answer

questions that cover material from the lectures and the required readings. The Instructor will conduct an exam review and provide a study guide in the last week of classes in each term. Rewrites will not be permitted. Deferred exams may be granted in exceptional circumstances with prior permission of the Instructor. Students must have well-documented reasons for requesting a make-up exam, such as illness, compassionate grounds, etc., and are required to submit supporting documentation (e.g., a doctor's letter). *Deferred exams will not necessarily be the same format.*

Attendance and Participation (throughout the year)

Students' attendance and participation in both the lecture and tutorials will be evaluated. Consistent attendance to all classes and tutorials is essential for success in the course. I strongly believe that participation in class discussions is a key aspect of students' learning. Active involvement in class discussions greatly enhances learning outcomes as students have the opportunity of hearing different ways of interpreting and applying course material and can learn from each other. Students also develop ability to articulate critical arguments, clarify errors and misunderstandings, and tend to remember better the material studied. In this course, I expect that students will complete the assigned readings and will contribute thoughtful opinions on relevant topics. Students should communicate with the Instructor on their participation and interim feedback will be provided.

Week-by-week schedule:

Week	Date	Topic and Readings
1	Sept. 11	Course Overview: Knowing and Wondering <i>Readings:</i> Syllabus Chapter 1, <i>The Art of Science</i>
2	Sept. 18	Art and Science: Divergence and Convergence <i>Readings:</i> Introduction, <i>A History of Science in Society</i> Chapter 3, <i>The Art of Science</i>
		PART I: HISTORICAL PERSPECTIVES ON LEARNING AND KNOWING
3	Sept. 25	The Greek World and the Origins of Natural Philosophy <i>Readings:</i> Chapters 1, <i>A History of Science in Society</i>
4	Oct. 2	Knowledge Systems and Spaces of Learning in Medieval Europe: The Founding of the Universities <i>Readings:</i> Chapter 3, <i>A History of Science in Society</i>
5	Oct. 9	The Study of Nature in the Renaissance and the Age of Exploration <i>Readings:</i>

		Chapter 4, <i>A History of Science in Society</i>
6	Oct. 16	The Creative Genius of Leonardo da Vinci <u>Readings:</u> <i>In-class film screening: Leonardo da Vinci, Episode 1 “The Man Who Wanted to Know Everything” (BBC documentary)</i>
7	Oct. 23	The Scientific Revolution <u>Readings:</u> Chapter 5, <i>A History of Science in Society</i>
	Oct. 26-30	Reading week
8	Nov. 6	The Enlightenment and Its Legacies <u>Readings:</u> Chapter 6, <i>A History of Science in Society</i>
		PART II: SCIENCE IN ARTS, LITERATURE, AND FILM
9	Nov. 13	Perspectivism and Representation: Convergences between Modernist Art and Physics <u>Readings:</u> Chapter 2, <i>The Art of Science</i> Chapter 9, <i>A History of Science in Society</i>
10	Nov. 20	Literary Visions of Scientific Hubris: Frankenstein’s Monster and Brave New World <u>Readings:</u> Mary Shelley. <i>Frankenstein; or, the Modern Prometheus</i> Aldous Huxley. <i>Brave New World</i> .
11	Nov. 27	Film Narratives of Scientific Hubris: Androids and Other Science Fiction Monsters <u>Readings:</u> David Desser, “The New Eve: The Influence of <i>Paradise Lost</i> and <i>Frankenstein</i> on <i>Blade Runner</i> ” <i>In-class film screening: Blade Runner (1982)</i>
12	Dec. 4	The Cinematic Science: Techno-Scientific Dystopias <u>Readings:</u> Chapter 4, <i>The Handbook of the Public Communication of Science</i>
	Dec. 10-Jan. 6	Exam period and winter holiday
		PART III SCIENCE AND SOCIETY
13	Jan. 8	The Social Construction of Science <u>Readings:</u> Michael Friedman, “On the Sociology of Scientific Knowledge and Its Philosophical Agenda”

		Shapin and Schaffer, "Introduction," <i>Leviathan and The Air-Pump</i>
14	Jan. 15	Bias and Objectivity <u>Readings:</u> Chapter 5, <i>The Art of Science</i> Donna Haraway, "A Cyborg Manifesto"
14	Jan. 22	Scientific Controversies and Consensus <u>Readings:</u> Chapter 4, <i>The Art of Science</i> Engelhardt and Caplan, "Introduction", <i>Scientific Controversies</i>
15	Jan. 29	Science and Religion: A Case Study of the Stem Cell Research and Human Cloning Controversies <u>Readings:</u> No readings are required.
16	Feb. 5	New Frontiers: The Emerging Technologies <u>Readings:</u> Chapter 9, <i>A History of Science in Society</i>
17	Feb. 12	Science and Ethics <i>In-class film screening: Gattaca (1997)</i>
	Feb. 15-19	Reading week
		PART IV: THE PUBLIC COMMUNICATION OF SCIENCE
18	Feb. 26	From "Deficit" to "Dialogue": Theories of the Public Communication of Science <u>Readings:</u> Chapter 5, <i>The Handbook of the Public Communication of Science</i>
19	Mar. 4	Science Journalism <u>Readings:</u> Chapter 2, <i>The Handbook of the Public Communication of Science</i>
20	Mar. 11	Scientists as Public Experts <u>Readings:</u> Chapter 9, <i>The Handbook of the Public Communication of Science</i>
21	Mar. 18	Public Participation and Dialogue <u>Readings:</u> Chapter 12, <i>The Handbook of the Public Communication of Science</i>
	Mar. 25	University Closed: Good Friday
22	Apr. 1	Course and Exam Review

Please see the Trent University academic calendar for University Diary dates, Academic Information and Regulations, and University and departmental degree requirements.

http://www.trentu.ca/calendar/documents/TrentCalendar2015_onlineMAY.pdf

Course Policies:

Attendance

Attendance is required at both the lecture and tutorial. Attendance and participation constitute 15% of the final mark for the course.

Late Assignments

The deadlines for assignment submission in this course are firm. All assignments are to be turned in at the beginning of the class on the day it is listed as due on this syllabus. A penalty of 5% per day will be levied upon any late assignments. The Instructor may grant extensions for valid reasons such as illness, compassionate grounds, etc. but will require supporting documentation (e.g., a valid certificate from a physician). In all cases, requests should be submitted prior to the assignment due date.

Assignment Submission and Safe-Assign

All assignments must be submitted both electronically to the SafeAssign drop box in Blackboard and in hard copy at the beginning of the class on the due date. SafeAssign utilizes plagiarism-checking software. Further information about SafeAssign will be provided on the class Blackboard site.

University Policies

Academic Integrity:

Academic dishonesty, which includes plagiarism and cheating, is an extremely serious academic offence and carries penalties varying from failure on an assignment to expulsion from the University. Definitions, penalties, and procedures for dealing with plagiarism and cheating are set out in Trent University's *Academic Integrity Policy*. You have a responsibility to educate yourself – unfamiliarity with the policy is not an excuse. You are strongly encouraged to visit Trent's Academic Integrity website to learn more: www.trentu.ca/academicintegrity.

Access to Instruction:

It is Trent University's intent to create an inclusive learning environment. If a student has a disability and documentation from a regulated health care practitioner and feels that he/she may need accommodations to succeed in a course, the student should contact the Student Accessibility Services Office (SAS) at the respective campus as soon as possible, (Peterborough, Blackburn Hall, Suite 132, 705-748-1281 or email sas@trentu.ca

For Trent University – Durham, Thornton Road, Room 111 contact 905-435-5102 ext. 5024 or email corinnphillips@trentu.ca . Complete text can be found under Access to Instruction in the Academic Calendar.