HH4020 Science, Technology, and Science Fiction

Academic Year: 2025-2026, S1

AU: 4 AU

Course Type: Seminar

Lecturer: Dr. Alasdair Chi alasdair.chi@ntu.edu.sg

Location and Timeslot: Mondays 1330-1720, **AV LR1A @ ADM** (ART B1-02A)

Learning Outcomes

Upon the successful completion of this course, you would be able to:

- Explain the relationships between developments in science, technology, and science fiction.
- Analyse a diverse range of science fiction texts as historical primary sources.
- Deploy knowledge of science fiction genre in creative writing.
- Develop an historical argument based on primary sources from cultural history

Course Aims and Content

This module examines the relationship between science, technology, and science fiction over the past fifty years. You will learn how science fiction affects the development of science and technology, and, conversely, how developments in science and technology influence the genre of science fiction. This module will be of relevance to you if you have interests in cultural history, or if you intend to pursue in depth research on the relationship between science, technology and society.

This module examines the relationship between science, technology, and science fiction. It will examine how science and technology are explored in science fiction and, conversely, what kinds of influences science fiction has on the development of science and technology. Material to be examined will include not only traditional texts (science fiction novels) but also movies and computer games.

Seminars

This class is taught in seminar form, with one 4-hour session per week where students will be expected to participate in guided class discussions, then attend a film or game screening after which they will prepare their weekly review, to be submitted before the next seminar. Students should ensure they have completed the required weekly lecture reading as this forms the basis of the tutorial discussion. These tutorial readings will usually be made available via NTULearn, or links provided through the portal.

Formative Feedback

You will receive formative feedback through written responses to your papers and presentations. You will also receive verbal feedback through in-class discussion or one-on-one meetings, as necessary.

Office Hours

I am a part-time lecturer but will be free after class most times and will be on campus on Friday as well. Just send me an email and we can plan a time around our schedules as I may be seeing multiple students. Give me one day to respond.

Student Assessment

The assessment for this course comprises of the following elements:

- **Class Participation:** 20%, Continuous
- **Weekly Media Reviews:** 20%, Continuous
- **Science Fiction Creative Writing:** 20%, Week 10
- **Final Paper:** 40%, After Week 13

Class Participation (20%): You will learn from your peers in group discussions and build important skills, including constructing convincing arguments; analysing primary and secondary sources; and verbal communication. Topics will be assigned by group each week, but you will be individually assessed on the extent to which you participate in and contribute to the class discussion. It is not enough to merely turn up to class; rather, you will be assessed on the extent to which you participate in and contribute to the class discussion.

Weekly Media Reviews (20%): Each week you will be asked to submit a short review of the film or game watched in the previous week. These will be assessed based on written expression as well as engagement with themes in the reading and class discussion. These will be due at the beginning of class each week from Week 3 onwards.

Science Fiction Creative Writing (20%): During the semester you will complete one creative project. The nature of the topic is open-ended. The project may take the form of written work, website, multimedia object, poster, etc. The amount of work required is roughly the equivalent of a 1500-word paper. Some suggestions and ideas for the project include:

- Write a short story inspired by a particular technology or scientific breakthrough;
- Develop a character sheet in a role-playing game based around a scientific or technological vision of the future;
- Illustrate a poster based on a scientific or technological development, or a narrative seen in science fiction;
- Develop an online story space or hypertext narrative related to some aspect of science and technology.

Final Paper (40%): For your final research paper (5000 words), you will a develop a critical, At the end of the semester you must complete a 5000-word research paper related to some aspect of the class. The choice of topic is up to you, but you should consult with me at some point during the semester in order to get approval for your topic. Since this is primarily a history class, the paper should be broadly historical in nature. It should engage with both primary and secondary sources.

Bibliography and Citation Style

All citations are to be rendered in footnotes and accompanied with a complete bibliography rendered in the Chicago 16th or 17th Manual of Style. Poor citations will be marked down according to rubrics. Familiarise yourself with the difference between a footnote citation and bibliographic entry.

Plagiarism

Good academic work depends on honesty and ethical behaviour. The quality of your work as a student relies on adhering to the principles of academic integrity and to the NTU Honour Code, a set of values shared by the whole university community. Truth, Trust and Justice are at the core of NTU's shared values. As a student, it is important that you recognize your responsibilities in understanding and applying the principles of academic integrity in all the work you do at NTU. Not knowing what is involved in maintaining academic integrity does not excuse academic dishonesty.

You need to actively equip yourself with strategies to avoid all forms of academic dishonesty, including plagiarism, academic fraud, collusion and cheating. If you are uncertain of the definitions of any of these terms, you should go to the [academic integrity website](#) for more information. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.

GAI Usage

Use of General Artificial Intelligence (GAI) is permitted in the following situations: 1) Assist in generating key ideas only; 2) Assist in refining syntax and grammar for correct language submission only. The final write-up MUST be the student's own work.

Students must preserve a digital paper trail showing the way the GAI assistant was used. This should be a Word document specifying the particular GAI assistant used and include the prompts given to the GAI assistant and the GAI output, or outputs if several are generated. Use of GAI assistance is not permitted in the development or generation of this assignment or project.

On the Digital Paper Trail

Students are required, besides submitting the final work in the NTULearn facility, to also submit the paper trail as a Word document or documents, in a second and separate assignment section for this purpose under NTULearn. For assignments where the submission is non-digital, the students can create a photo journal or a blog to document the journey and submit the pdf of this instead.

This digital paper trail must be maintained for later reference, at least until the end of the Academic Year following the semester in which the relevant assignment is submitted. This is to preserve the potential evidence in case there is a later complaint or suspicion relating to academic integrity violations regarding that submission, or for further investigation by the school or other schools or the university when other academic integrity matters are raised regarding the same student, and it is deemed desirable to cross-check conduct in earlier courses.

The student must sign and submit with the assignment/project write-up a declaration regarding such use. In addition, the student must provide footnote or in-text references in the submission indicating any text paraphrase or significant fact or idea that originated with the GAI assistant.

See example below:

Reference list entry example (with a shareable link generated by the AI tool)

OpenAI. (2023). ChatGPT (Aug 7 version) [Large language model].

https://chat.openai.com/share/46ce4720-19bd-4c21-84f0-7a69ec4af03d

Reading List

Texts subject to changes.

- Alan Turing (1950) 'Computing machinery and intelligence' *Mind* 59: 433-460.
- Bill Joy (2000) 'Why the future doesn't need us', *Wired* (August 4) 8.04. Available at: http://www.wired.com/wired/archive/8.04/joy.html
- Bruce Bethke (1983) 'Cyberpunk' Available at: http://project.cyberpunk.ru/lib/cyberpunk/
- Bruce Sterling, *Islands in the net* (1988).
- Deus Ex (2000).
- Douglas Thomas (2002) "Hacking culture." In *Hacking culture* (Minneapolis: University of Minnesota Press): 5-46.
- Eric Hughes (2001) "A cypherpunk's manifesto," pp. 81-84 in Peter Ludlow, ed. *Crypto anarchy, cyberstates, and pirate utopias* (Cambridge, MA: MIT Press).
- George Alec Effinger, *When Gravity Fails* (1986).
- Lawrence Person (1999) 'Notes towards a postcyberpunk manifesto', Available at: http://slashdot.org/features/99/10/08/2123255.shtml
- Leonard P. Sanders (2008) 'Postmodern orientalism', pp. 43-91 in 'Postmodern orientalism: William Gibson, cyberpunk, and Japan', Doctoral dissertation, English, Massey University, Albany, New Zealand.
- Mark Amerika, *Grammatron* (1997).
- Marvin Minsky (1988)*The society of mind* (New York: Simon & Schuster): Chapters 1, 2, and 18.
- N. Katherine Hayles (2007). Electronic literature: what is it? Available at: http://eliterature.org/pad/elp.html
- Neal Stephenson, *The Diamond Age* (1995).
- Paul De Filippo (1998) "Ribofunk: the manifesto." Available at: http://www.streettech.com/bcp/BCPtext/Manifestos/Ribofunk.html
- Paul De Filippo, *Ribofunk* (1996).
- Peter Ludlow (2001) "New foundations: on the emergence of sovereign cyberstates and their governance structures," pp. 1-24 in Peter Ludlow, ed. *Crypto anarchy, cyberstates, and pirate utopias* (Cambridge, MA: MIT Press).
- Phil McKenna (2009) 'Rise of the garage genome hackers' *New Scientist* (2689 – 7 January).
- Philip K. Dick, Do androids dream of electric sheep? (1968)
- Ray Kurzweil (2005) *The singularity is near: when humans transcend biology* (New York: Penguin): 149-157, 194-205, 226-259, 299-342.
- *Shadowrun* (role playing game).
- Sherry Turkle (1995)*Life on the screen: identity in the age of the Internet*(New York: Touchstone): Introduction: "Identity in the age of the Internet" and Chapter 10: "Identity crisis."
- Steven Levy (2011) 'The A.I. revolution' *Wired 19.01*. Available at:
- Timothy C. May (2001) 'The crypto anarchist manifesto', pp. 61-64 in Peter Ludlow, ed. *Crypto anarchy, cyberstates, and pirate utopias* (Cambridge, MA: MIT Press).
- Timothy Lenoir (2000) 'All but war is simulation: the military-entertainment complex', *Configurations* 8: 289-335.
- Tom Boellstorff (2008) "The virtual," pp. 237-249 in *Coming of age in Second Life: an anthropologist explores the virtually human* (Princeton, NJ: Princeton University Press).
- William Gibson, *Neuromancer* (1984)

Timetable for HH4020 Science, Technology, and Science Fiction

Week / Session	Topics / Themes	Readings	Activities / Deadlines
1	Introduction	Bethke	*The Running Man* (1987)
2	Cyberpunk	Lenoir, Gibson;	*Blade Runner* (1982)
3	Hackers and Crackers	Hafner and Markoff, Thomas;	*Akira* (1988)
4	Beyond the West	Sanders	*Parasite Eve* (1998); Gameplay footage
5	Role Playing Games	Boellestoff, Harrigan and Waldrop-Fruin	Introduction to *Shadowrun* and watch livestream
6	Networks	Sterling, Ludlow, May, Hughes;	*The Matrix* (1999)
7	Hypertext	Amerika, Hayles, Turkle, Aarseth	*The Terminator* (1984)
8	Nanoworlds	Stephenson, Person, Joy, Milburn	*Metal Gear Solid 4* (2008); Gameplay footage
9	Artificial Intelligences	Turing, Minsky, Levy	*Tron Legacy* (2010)
10	Ribofunk	De Filippo, McKenna	*Ghost in the Shell* (1995) **Creative Writing Assignment Due**
11	Biotechnology	Bacigalupi, Stevens, Kloppenberg;	*Policenauts* (1994); Gameplay footage
12	Gameworlds I	Orlando and Schwager, Juul	*THX 1138* (1971) **Research Essay Outline Due for Feedback**
13	Gameworlds II	Liu	*Deus Ex* (2000) Demo **Research Essay Due *after* this week**

Declaration on Academic Honesty*
Academic Year and Semester: AY2025-2026 Semester 1

What is academic dishonesty?

All members of the NTU community are responsible for upholding the values of academic integrity in all academic undertakings (including, but not limited to, written and oral assignments, presentations, course work, quizzes and exams). Students should not cheat, plagiarise, or attempt to pass off another's work as their own. This includes, but is not limited to, the writing or ideas of another person, without acknowledging or appropriately crediting the source from which the writing or ideas are taken. NTU takes a serious view of any form of academic dishonesty. Plagiarism, cheating, and any other forms of academic dishonesty are considered serious offences for which penalties will be imposed.

Declaration

By signing this form, you declare that you have read and understood NTU's Policy on Student Code of Conduct (http://www.ntu.edu.sg/ai/ForEveryone/Pages/NTUAcademicIntegrityPolicy.aspx) and that all graded and non-graded assignments you have turned in are your/your group's own work and will not involve any plagiarism or collusion. Reliance on other people's work, when allowed, will be appropriately referenced. You are responsible for knowing the appropriate form of referencing used for this course. Quotation marks will be used around materials written verbatim from other sources; citations will clearly indicate paraphrasing of other sources.

You will not submit any work for this course that was (in whole or part) graded work for another course, or will be.

You must print, sign, and return the lower section of this form to the Lecturer by Week Two. <u>No participation credit will be given until this is returned.</u>

*Adapted from 'Academic Honesty Declaration' for HS7003.

- -

Declaration on Academic Honesty

Course code: HH4020

Name (as registered):

_____

Matriculation number:

_____

Signature & date

_____