

AST 389: Science Fiction General Information

Spring 2022

Wednesdays 6:05 - 9:00 PM
Humanities 3018

Instructor: [Prof. Frederick M. Walter](#)

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Office Hours: MWF 9-10AM or by appointment.

Overview:

The term "science fiction" is a misnomer in that it is generally not fiction about science. The genre is more appropriately titled "speculative fiction", since authors are free to speculate about what-might-have-beens, what-ifs, and what-might-be. When these speculations are carried out subject to the constraints of physical law, we have what is called hard Science Fiction (as opposed to fantasy). This course will examine some of these what-might-have-beens, what-ifs, and what-might-yet-bes subject to the constraints of physical law, as imagined by various authors.

We will use this genre of literature

- to teach aspects of science,
- to explore facets of reality that don't arise on Earth,
- to speculate about the nature of life under different conditions,
- to hypothesize alien or alternative cultures,
- to explore the ramifications of new technologies and understanding on human societies, and
- to peer into possible and plausible futures.

Hard science fiction permits one to perform *gedankenexperimente* on societies.

We will read 11 SF novels and a number of novellas and short stories. We will examine these texts through the lenses of both science and literature. Please note that all texts under our microscope are "hard sci-fi," so what we find could be possible...

Prerequisites: Students must have completed the HUM and SNW SBC requirements (or DEC A, B and one DEC E course).

Requirements:

- ACTIVE and INFORMED participation (10% of your grade). This class will consist mostly of discussion of the readings and other relevant materials, so it is important for you to have read and thought about the materials beforehand.
- Book reports (15% of your grade). I have assigned 11 novels. The novels include the contemporary works of fiction [listed below under "Readings"](#) and Verne's "From the Earth to the Moon". This is a lot of reading (but you are supposed to be interested, no?). To prod you to do the readings, you are required to turn in book reports (1-2 typewritten pages in length) on 7 of the novels (of your choosing). *Reports on the short stories or novellas will not be accepted.* I consider "The Time Machine" to be a novella.
Do not merely summarize the story. What are the lessons the author is trying to convey? Why

do you think I chose it? What makes this good science fiction (or if you think it is not, why not?). Tell me something you cannot find on-line.

Book reports may be e-mailed to the instructor, or may be handed in in class. *In no event will these reports be accepted after the start of the class when we discuss the book.*

- Three papers (each 25% of your grade):
 - a.) a literary **and** scientific critique of a relevant text or movie or TV series not discussed in class. The length should be no less than 3 pages, and no more than 5 pages (this is a guideline, not a requirement) This critique is due in class before Spring Break.
 - b.) a paper based on a topic I supply (suggested length 5-7 pages, so it may be usable for your undergraduate division writing requirement). This paper is due on April 13.
 - c.) an original short story on a topic that fits into the hard sci-fi genre. The original short story is due at the end of the semester. Graphic novels or videos, as well as words on paper, are acceptable. Check with your instructor if you are unsure.

Your critique (paper a.) must be on

- material that is approved by the instructor (we can't have you reading fantasy now, or critiquing "Lost in Space" or "Barbarella", can we?), or
- based on [material in this list of other texts](#).

Video games are unacceptable.

The topic for paper b.) is to be chosen from one of the following:

- **How good are SF authors as prognosticators?** Select at least one novel or two movies or two short stories (either from the reading list, the other [screened list](#), or others, which should be cleared with the instructor) set in the present or near future. Discuss how the society and the technology that the author foresaw compares to the reality of our present day.
- **The End of the Earth:** Examining a minimum of two of our texts (novels or short stories), explore the psychological effect of knowing on some level that the world as known to the characters is going to end. Does it matter how, or how soon, the world will end? Make sure your two texts "come together" and are not just tagged on to each other.
- **"Comparative Alienology":** What is the difference between a "good" alien and a "bad" alien? How do we differentiate? How do we know? And CAN we know? How possible/plausible is communication? Use support in Pickover as you examine two or more of our readings.

Your instructor prefers to read papers on paper. If you want your papers marked up and handed back, you **MUST** deliver a paper copy to the instructor on or before the due date. However, all materials may be delivered electronically as .pdf (preferred), .doc/docx, or plain text files *before* the class meets.

Late papers will be accepted only at the discretion of the instructor, and with a reasonable explanation. One letter grade will be deducted from all late papers. Papers delivered electronically during class time (e.g., after 1805 EST/EDT on Wednesday) will be considered late, because you should be paying attention in class rather than finishing assignments.

The short story (assignment c) must be delivered electronically. Unless you object in writing, your short stories will be posted to Blackboard so that your classmates may enjoy your ideas.

Exams: There are no exams. Do the readings.

Readings: The required texts, which you must have access to, are

- Asimov, Isaac: *I, Robot*
- Bradbury, Ray: *The Martian Chronicles*
- Butler, Octavia E.: *Parable of the Talents*
- Cherryh, C.J.: *Foreigner*
- Haldeman, Joe: *Forever War*
- Herbert, Frank: *Dune*
- Kollin, D. & Kollin, E.: *The Unincorporated Man*
- Miller, Walter: *A Canticle for Liebowitz*
- Russell, Mary Doria: *The Sparrow*
- Verne, J.: *From the Earth to the Moon* (on-line - see the syllabus)
- Weir, Andy: *The Martian*

If you choose to purchase these texts, any edition or version is acceptable. All are available in paperback.

Other required readings are available on-line or are available on Blackboard. See the [syllabus](#).

Blackboard: Short stories that are not in the public domain are posted on Blackboard. Otherwise, your instructor will use blackboard as little as possible. The web pages you are reading are the documents of record.

Contacting the Instructor:

Your instructor welcomes e-mail, but is innundated with spam. And many of you have e-mail addresses that are not instantly recognizable, especially if they originate from yahoo.com or hotmail.com. Please make sure that the subject line of your e-mail contains one of the following phrases: *AST 389* or *Science Fiction*.

If you cannot reach the instructor, in an emergency you can e-mail CAS_Dean@stonybrook.edu with "AST389" in the subject line.

Assigned papers may be mailed as attachments. I will send confirmations that I can read your file upon request (but maybe not immediately). PDF, postscript, and Word (.doc/docx or .rtf) documents are generally readable, but there are alien formats (such as xml) we simply cannot fathom. If you have a choice, pdf is preferable.

Classroom Decorum:

Students attending class are asked to exhibit common courtesy. See [Critical Incident Management](#).

- If you arrive early, please take a seat near the center of the room. Otherwise late-coming students will be forced to crawl over you.
- Please do not arrive late. This is discourteous and disruptive. You may miss important announcements, and you may never figure out just what planet we're on today.
- Please do not leave early. This is discourteous and disruptive.
- Please do not carry on intimate conversations with your friends during class. We are all your friends, and we all want to share in the conversation.

- Please turn off cell phones and pagers during class. If you must use the phone, please leave the room.
- Students who are disruptive will be asked to leave.

Students are encouraged to ask questions at any time during the lectures. Lecture notes will not be available, although lecture synopses may be posted to the course website. You are responsible for taking notes.

Attendance Policy :

Students who know in advance that they will miss a class because of university-related activities (including athletics) or civic obligations (e.g., jury duty) should contact the instructor as soon as possible in advance of the date of absence.

Otherwise, one unexcused absence is allowed; each subsequent absence will lower your grade. An excused absence is documented immediately after it occurs -- advance notice of a necessary absence is also a good thing! Attendance will be taken.

If you will need to miss classes because of common exams on Wednesday evenings, you should consider taking another class.

An absence, excused or not, is not sufficient reason to be late with papers.

Requests for extra credit assignments will not be entertained.

University-Mandated Notices

Academic Integrity :

Plagiarism is bad. Always give credit to all your sources.

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty please refer to the [academic judiciary website](http://www.stonybrook.edu/commcms/academic_integrity/index.html) at http://www.stonybrook.edu/commcms/academic_integrity/index.html

Students suspected of plagiarizing their writing assignments, or of any other form of academic dishonesty, will be assigned an F grade for the course and will be reported to the [academic judiciary](#).

Students who suspect others of cheating are encouraged to report them. Reports will be kept confidential. Dishonest students make things that much harder for the majority of students, who are honest.

SBU subscribes to a plagiarism-detection website, and it is really easy for instructors to use. Moreover, the time spent searching for lovely things to plagiarize is arguably longer than what it will take to craft a personal paper. Again, please don't!

Critical Incident Management:

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of University Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook.

Americans with Disabilities Act/ Student Accessibility Support Center Statement:

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Student Accessibility Support Center, ECC (Educational Communications Center) Building, Room 128, (631) 632-6748. They will determine with you what accommodations, If any, are necessary and appropriate. All information and documentation is confidential.

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Student Accessibility Support Center. For procedures and information go to [this website](http://www.stonybrook.edu/ehs/fire/disabilities) (<http://www.stonybrook.edu/ehs/fire/disabilities>).

Student Support Services:

Updated for the Semester of COVID-19.

- To access mental health services, call Counseling and Psychological Services at 631-632-6720; Counselors are available to speak with 24/7.
- For updated information on the Academic Success and Tutoring Center please check www.stonybrook.edu/tutoring for the most up-to-date information.
- For IT Support: Students can visit the Keep Learning website at <https://sites.google.com/stonybrook.edu/keeplearning> for information on the tools you need for alternative and online learning. Need help? Report technical issues at <https://it.stonybrook.edu/services/itsm> or call 631-632-2358.
- For information on Library services and resources please visit the [Continuity of Library Operations guide](#).

Course Materials and Copyright Statement:

Course material accessed from Blackboard, SB Connect, SB Capture or a Stony Brook Course website is for the exclusive use of students who are currently enrolled in the course. Content from these systems cannot be reused or distributed without written permission of the instructor and/or the copyright holder. Duplication of materials protected by copyright, without permission of the copyright holder is a violation of the Federal copyright law, as well as a violation of Stony Brook's Academic Integrity.

Updated October 2021

- **Wednesday January 26:** First class. No readings due.
 - **Wednesday March 9:** First Paper Due ([topic a](#)).
 - **Wednesday April 13:** Second Paper Due ([topic b](#)).
 - **Friday May 6:** Third Paper Due ([topic c](#)).
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Syllabus revised 29 October, 2021

Class	Date	Topic
1	Jan 26	Introduction to Science Fiction
	Lecture:	The scope of science FICTION and the scope of SCIENCE fiction
	Video:	<i>The Day the Earth Stood Still</i>
2	Feb 2	Science (Fiction) and Society
	Lecture:	Science , Pseudo-Science , and Non-Science in Contemporary Society
	Readings:	Asimov: Nightfall
		Haldeman: <i>The Forever War</i>
	Supporting Documentation:	Liquid breathing moves a step closer thanks to measurement study
3	Feb 9	The Long History of Science Fiction
	Lecture:	Sci-Fi as an Echo of the Aspirations of an Age
	Readings:	Cyrano de Bergerac: The Other World
		Verne: From the Earth to the Moon
		Campbell: <i>Twilight</i> *
		Asimov: <i>Pate de Fois Gras</i> *
	Other:	The Great Moon Hoax of 1835
		Le Voyage dans la Lune
4	Feb 16	Gadgets in Science Fiction. I: Space Travel
	Lecture:	Can't Get They'a from Hey'a - the Physics of Space Travel
	Readings:	Weir: <i>The Martian</i>
		Godwin: <i>The Cold Equations</i> *
		Niven: <i>Neutron Star</i> * Image of a neutron star
	Video Excerpt:	2001, A Space Odyssey
	Bonus Reading:	Brin: An Ever-Reddening Glow
	Supporting Documentation:	Is beaming down in Star Trek a death sentence? <i>Ars Technica</i> , 9/23/17
5	Feb 23	Gadgets in Science Fiction. II: Time Travel
	Lecture:	Quantum Mechanics, Causality, Entropy, and Time

	Readings:	Wells: <u><i>The Time Machine</i></u>
		Anderson: <i>Flight Forever</i> *
		Bradbury: <u><i>A Sound of Thunder</i></u>
		Niven: <i>The Theory and Practice of Time Travel</i> *
6	Mar 2	Fiction of the Near Future - Nuclear Cataclysms
	Lecture:	<u>The Only Thing We Need to Fear is Fear Itself?</u>
	Readings:	Miller: <i>A Canticle for Liebowitz</i>
		Benet: <u><i>By the Waters of Babylon</i></u>
		Bradbury: <i>There Will Come Soft Rains</i> *
	Other:	T. Cahill: <i>How the Irish Saved Civilization (Anchor Books, 1995)</i> a non-fiction work documenting how monks may have preserved Greek and Roman learning during the Dark ages
7	Mar 9	Fiction of the Near Future - Biology and Economics
	Lecture:	<u>Just Enough Genetics and Evolution</u>
	Readings:	Kress: <i>Beggars in Spain</i> *
		Simak: <i>Desertion</i> *
		Gibson: <u><i>Johnny Mnemonic</i></u>
		Kollin & Kollin: <i>The Unincorporated Man</i>
		Feinstein: <u><i>It's a Trap: Emperor Palpatine's Poison Pill</i></u>
	Supporting Documentation	<u>About CRISPR</u> <u>A Use for CRISPR</u>
8	Mar 23	Fiction of the Distant Future
	Lecture:	<u>Exoplanets. slide captions. Kepler Orrery</u>
		<u>The End of the Universe</u>
	Readings:	Herbert: <i>Dune</i> <u>Introduction</u>
		Sheffield: <i>At the Eschaton</i> * <u>Introduction</u>
9	Mar 30	The Last Man on Earth
	Lecture:	<u>Why Stars Explode</u> (and Planets Do Not)
	Readings:	Butler: <i>Parable of the Talents</i>
		Bradbury: <u><i>The Last Night of the World</i></u>

10	Apr 6	Gadgets in Science Fiction. III: Aliens
	Lecture:	Alien Biology
	Readings:	Russell: <i>The Sparrow</i>
		Brin: Lungfish
		Shara & McDevitt: Lighthouse
		Weinbaum: A Martian Odyssey
		Fraknoi: The Unwelcome Reply
	Other	Slide show from Arecibo Observatory
11	Apr 13	Communicating with Aliens
	Lecture:	SETI
	Readings:	Cherryh: <i>Foreigner</i>
		Knight: <i>To Serve Man</i> *
	Other:	Scientists say space aliens could hack our planet Source: Hippke, M & Learned, J.G, 2018, arXiv:1802.02180
12	Apr 20	The End of the Earth
	Lecture:	Impacts on the Earth: Risks and Rewards The Meaning of Exponential Growth
	Readings:	Niven: <i>Inconstant Moon</i> *
		Clarke: <i>The Star</i> *
		Clarke: <i>Rescue Party</i> *
		Bradbury: The Last Night of the World
	Optional Reading	Crichton: The Andromeda Strain
13	Apr 27	Futures that Never Were
	Discussion:	Prospects for Artificial Intelligence Robots
	Readings:	Asimov: <i>I, Robot</i>
		Asimov: The Last Question
		Why the three laws of robotics do not work
	Suggested Reading	Gibson: <i>Neuromancer</i>
	Optional Reading	Karel Capek: R.U.R.

	Other	Lehman et al. <u><i>The Surprising Creativity of Digital Evolution</i></u> <u>Non-technical summary in Popular Mechanics</u>
14	May 4	Science Fiction as Allegory
	Discussion:	<u>That's a Wrap!</u>
	Readings:	Bradbury: <i>The Martian Chronicles</i>
		Alternative chapters: <u><i>The Fire Balloons (November 2002)</i></u> <u><i>The Wilderness (May 2003)</i></u>
	Video	<u>Dark Star</u>

Novels in red can be ordered through the bookstore, and are also available at booksellers such as Barnes & Noble, or at amazon.com. Short stories followed by an asterisk are not freely available on-line, but can be accessed on the [AST 389 Blackboard page](#).

Learning Outcomes

Updated 16 January 2018

AST 389 satisfies the STAS (Understand Relationships between Science or Technology and the Arts, Humanities, or Social Sciences) SBC category. As such, it must include the following learning outcomes:

1. Apply concepts and tools drawn from any field of study in order to understand the links between science or technology and the arts, humanities or social sciences.
2. Synthesize quantitative and/or technical information and qualitative information to make informed judgments about the reciprocal relationship between science or technology and the arts, humanities or social sciences.

In this class we use science and technology (introduced through lectures and the non-fiction readings) as a tool to examine various *gedankenexperimente*, largely in the social sciences, as presented in the readings (arts and humanities).

The two learning outcomes will be assessed in assignments [b](#) and [c](#). Students are asked to balance the quantitative scientific and technical tools with appropriate creativity in their assignments.