THE MOVIEGOER'S GUIDE TO THE FUTURE

Spring 2019
Tuesday 4:30 — 8:00 PM, Location: CDN 60

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Maynard Office Hours: Wednesdays, 10:00 AM — 12:00 PM, Interdisciplinary B, room B366D

OVERVIEW

The Moviegoer's Guide to The Future uses twelve kick-ass science fiction movies to explore emerging trends in science and technology, and approaches to conducting scientific research and developing new technologies in ways that improve and enrich lives, while avoiding potentially harmful consequences to individuals, society, and the environment.

Through movies like *Jurassic Park, Ghost in the Shell* (the original Anime version, of course) and *Transcendence*, the course explores technologies from genetic engineering and "de-extinction", to human enhancement, nanotechnology, and artificial intelligence. It also looks at the human side of technology innovation, from the ethics of cloning in movies like *Never Let Me Go*, and predictive justice in *Minority Report*, to the dangers of blind entrepreneurial ambition in movies like *Ex Machina*. And it addresses some of the really big issues in science and society we're facing today, like climate change (with *The Day After Tomorrow*), and science and belief (through Carl Sagan's *Contact*).

Through these and other movies, the course dives into the increasing complex relationship between science, technology and society, and begins to unpack how, through understanding this relationship better, we can help build a better, more responsible science and technology-based future.

MOVIES WE'LL BE WATCHING

Jurassic Park (1993) • Never Let Me Go (2010) • Minority Report (2002) • Limitless (2011) • Elysium (2013) • Ghost in the Shell (1995) • Ex Machina (2014) • Transcendence (2014) • The Man in the White Suit (1951) • Inferno (2016) • The Day After Tomorrow (2004) • Contact (1997)

REQUIRED READING

Andrew Maynard (2018) *Films from the Future: The Technology and Morality of Sci-Fi Movies* (Mango Publishing).

WHAT YOU'LL LEARN IN THIS CLASS

KEY IDEAS AND CONCEPTS

We cover a lot of ideas and concepts in this class, including:

- The process and nature of scientific discovery and technology innovation.
- Current trends in emerging and converging science and technology.
- The complex relationships between science, technology, and society.
- Socially responsible and responsive innovation.
- The ethics of research and innovation.
- Social justice, equity, rights, and privilege.
- Existential risk and technology innovation.
- Power, influence, and innovation.
- The nature of science and belief.
- What it means to be human.

LEARNING OBJECTIVES

Following the class, you'll be able to:

- Use active viewing skills to gain insights on real-world science and technology-related challenges and opportunities from movies.
- Discuss how science fiction movies can provide insights into the potential benefit and risks of new and emerging technologies.
- Discuss a number of emerging trends in science and technology and the opportunities and challenges they present, including the underlying scientific and social principles; including genetic engineering, cloning, human enhancement, artificial intelligence, nanotechnology, synthetic biology and geoengineering.
- Describe the reciprocal relationship between science and society, and explain why inclusive and transdisciplinary approaches are needed for successful and responsible technology innovation, together with how this might occur.
- Formulate, communicate, and defend well-informed views of your own on the development of beneficial and socially responsive and responsible science and technology.
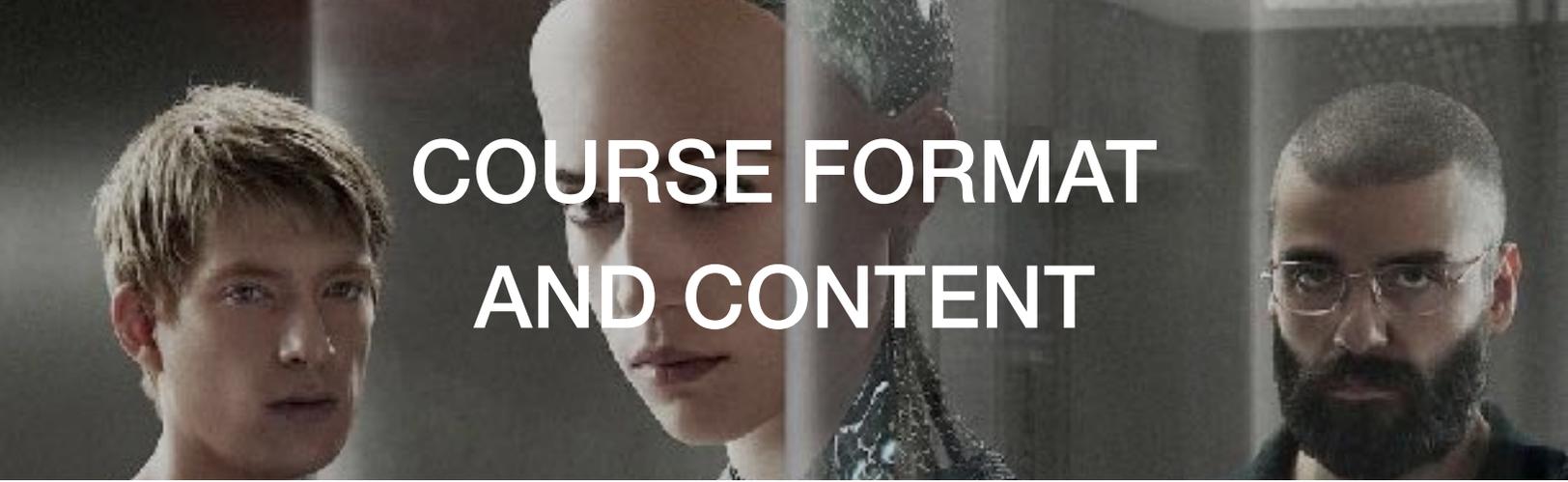
COURSE FORMAT
AND CONTENT

DIGITAL PORTFOLIOS

You'll be using digital portfolios throughout this class to capture your thoughts and ideas, and engage with others on their thinking around the issues we will be exploring. Please make sure you set your class digital portfolio up at the beginning of the course by adding information on yourself and your aspirations for the course.

A TYPICAL WEEK

Weekly reading. Before each class, you'll be required to read a chapter from *Films from the Future* that sets the scene for the week. This will introduce the movie you'll be watching (on most weeks), provide a background to key areas of science and technology touched on in the movie, and explore some of the key themes around science, technology and society that the movie raises.

Pre-class reflections. Before each class, and after reading the week's chapter, you'll be required to describe **three ideas or topics** you'll be focusing on while watching the week's movie — you'll post these on your Digital Portfolio. These should draw from the week's reading, the course learning objectives, and your own interests.

In-class movies. We'll be engaging in "active watching" (see below) where you'll be actively looking for how the movie provides insights into the concepts, ideas and issues you identified in your pre-reflection. We'll have a short introduction to the movie at the start of the class, and at the end of each movie we'll discuss in groups and as a class the insights we can take away from it.

Post-class reflections. Following each movie, you'll be asked to post a short reflection on your Digital Portfolio. Here, you'll be required to write about new ideas or insights that stood out for you from the movie, the discussions, and the reading. **Your reflection should explicitly relate to the the course learning objectives where possible.**

Toward the end of the course, you will be asked to use your pre- and post-reflections as the basis of a narrative (also posted on your digital portfolio) that illustrates how you have met the course learning objectives. You will also be required to complete an assignment on a specific area of technology innovation, which will draw on the course content.

TASKS

Apart from the final course assignment and self-assessment, your progress (and your grade) in this class will be based on weekly tasks. For these to be graded, **they must be submitted on time**.

PRE-CLASS REFLECTIONS

Each week, you'll be required to post a pre-class reflection on your Digital Portfolio. This should be based on the reading for the week, the movie we will be watching, your own personal interests and experience, and the course key ideas and concepts, and learning objectives. Your pre-class reflection should briefly describe **three ideas or topics** that you will be focusing on while watching the movie. **These should be posted before class,** and should be used to guide your active watching of the movie, your participation in class discussion, and your post-class reflection. You could include sufficient detail to guide your active viewing.

Only pre-class reflections posted before the class will be graded. They will be graded on the extent to which the ideas or topics you list reflect the movie to be watched, the course ideas, concepts and learning objectives, and your own ideas and interests. Points will be deducted for overly brief pre-class reflections.

CLASS PARTICIPATION

Part of your grade will depend on you attending class, and actively watching the movie and participating in class discussions. If you need to miss a class, please ask permission **before the day of the class** (unless it's an emergency). If you miss class without permission, your class participation grade will suffer.

You are strongly encouraged to bring your own perspectives and interests to the class discussions. For instance, if you have a particular interest in how music, video shooting approach and direction enhance or extend a movie's narrative around science, technology and society, you should feel free to draw on these.

POST-CLASS REFLECTIONS

Each week, you'll be required to post a short reflection (typically 200 — 300 words) on **three insights or ideas** that particularly stood out for you, based on the movie, the week's reading, class discussions, and your own thinking. **These should reflect specific concepts, ideas, and learning objects from the class where possible.** Your reflection should ideally build on your pre-reflection, although it doesn't have to be limited to the ideas and topics you list there. It should also draw on your own thoughts and experiences, as well as on previous movies covered in the class. It may also draw on other readings and resources as appropriate.

You will be graded on posting your reflection on time, and on the extent to which its content reflects the movie, the course ideas, concepts and learning objectives, and your own ideas and interests. **Post-class reflections are due midnight the Friday after class. Only post-reflections posted on time will be graded.**

ESSAY ON SOCIALLY BENEFICIAL AND RESPONSIBLE TECHNOLOGY INNOVATION

Toward the end of the semester, you will be required to write and post open your Digital Portfolio a short essay (~750 words) inspired by **one** of the six prompts listed below. This should draw on material covered through the course and in the course readings. It should also utilize the course bibliography, which consists of websites, articles, papers, and books referenced in *Films from the Future*.

Your essay should communicate and defend well-informed views of your own on the development of beneficial and socially responsive and responsible science and technology within a specific area. It may be written in an informal style. However, you are expected to produce an essay that has a clear and focused narrative, that engages and informed the reader, and that acknowledges and references sources appropriately. You should base your arguments on evidence; and you should distinguish clearly between fact, assumption, and opinion.

 You are strongly encouraged to start developing your ideas for the essay early in the course.

Select **just one** of the following six prompts:

1. Scientists are planning to "grow" the first fully functioning human in a laboratory, without natural parents, within 20 years. What are the technologies they hope to use to achieve this, how plausible are they, and what are some of the biggest scientific, technological and social barriers they face? Is this a technology that we should be pursuing as a society, and if so, how do we ensure that it is socially responsible?

2. New breakthroughs in genetic engineering are increasingly enabling scientists and entrepreneurs to design new organisms, and even alter the genetic makeup of existing ones. What are some of the most startling technological breakthroughs here, where does the divide lie between what is plausible, and what is fantastical, how might some of these capabilities change our lives over the next 30 years, and what should we be doing now to ensure these emerging technologies are developed and used responsibly?

3. Artificial intelligence research is leading to rapid advances in what AI systems are capable of, to the extent that some scientists and technologists are concerned that we are potentially creating AI technologies that present new and challenging risks. What are the realistic promises and limitations of current AI research, how are advanced AI and robotics likely to impact our lives over the next 20 years, what are some of the biggest potential benefits and risks, and how can we ensure that the benefits far outweigh the risks?

4. A growing number of organizations are investing in converging technologies, and what is being dubbed the "fourth industrial revolution". To what extent is "convergence" between different domains of science and technology a driving force behind increasingly powerful technologies, and to what extent is it merely hype? How might convergence between different capabilities lead to novel technologies over the next 20 - 30 years; what are some of the social, political and technological challenges to ensuring the benefits far outweigh the risks; and what are some ways in which they might be overcome?

5. For the first time in human history, we are getting close as a species to being able to intentionally alter and redesign the environment and the ecosystems we live in and are a part of. What are some of the emerging technologies that are important here; what are some of the social, ethical and moral issues they raise; and how might we begin to navigate toward a future where these technologies are used in socially responsible ways?

6. Emerging science and technology are leading to unprecedented breakthroughs in how we no only prevent and cure illness, but how we might enhance human capabilities. What are some of the more realistic breakthroughs that promise to protect and improve human capabilities, what are some of the more pressing social and ethical issues these raise, and how can we help ensure new scientific and technological advances benefit as many people as possible, and are socially equitable and responsible?

COURSE SELF-ASSESSMENT

At the end of the class, you will be required to post a self-assessment on your Digital Portfolio that demonstrates the extent to which you have made progress toward each of the class' learning objectives. This should be a brief summary of evidence that draws from from your pre- and post-reflections, as well as any other sources (including personal experience, or achievements in other classes). It should illustrate the degree to which you can demonstrate your learning and abilities against each learning objective.

Your self-assessment can be informal, and it should be relatively short. Your aim should be to show the course instructor what you have learned, so that they can rapidly assess your progress. Simply citing a reflection as evidence of achieving a learning objective is insufficient, as the course instructor will not have the time to evaluate the reflection in question. Rather, you should include explicit evidence of your achievement within your self-reflection by excerpting and explaining parts of your reflections, or explicitly describing how presented evidence demonstrates your progress.

Your self-assessment will be graded based on the extent to which it illustrates progress toward each of the course learning objectives. Evidence of substantial progress toward each objective will be graded an A (or A+ if evidence of progress is exceptional). Limited progress, or limited evidence, will result in a self-assessment grade of B or lower.

You are strongly advised to start collecting material and evidence for your self assessment early in the course.

Self-assessments need to be posted on your digital portfolio no later than **Monday April 29**.

Course self-assessments posted after the deadline will not be graded, unless prior permission is requested.

GRADING

GRADING

The following break-down will be used for class grades:

Participation in Class	15 points
Pre-reflections	24 points
Post-reflections	36 points
Technology Innovation Essay	15 points
Self-Assessment	10 points

The course will be graded our of 100. There will be opportunities to gain up to a maximum of 5 points in extra credit through the course.

Barrett students interested in adding an honors contract to the class should contact the instructor in the first week of classes.

GRADING SCHEME

A-/A/A+	90.0-92.4/92.5-97.9/98-100	Excellent
B-/B/B+	80.0-82.4/82.5-87.4/87.5-89.9	Good
C/C+	70.0-77.4/77.5-79.9	Average
D	60.0-69.9	Passing
E	<60	Failure
XE		Failure due to Academic Dishonesty

[Note: in order to receive University Distribution requirement credit you must earn at least a "C."]

INCOMPLETES

A mark of "I" (incomplete) can be given by the instructor when you are otherwise doing acceptable work but are unable to complete the course because of illness or other conditions beyond your control. If you request an "I", you are required to agree with the instructor what you need to do to complete the course requirements. The arrangement must be recorded using the form at http://students.asu.edu/forms/incomplete-grade-request. Students should be proactive and discuss this with their instructor and TA before the end of the semester. Students who do not complete this form

before the end of the semester cannot be given an incomplete and will be awarded a grade based on the work they have completed.

LATE ASSIGNMENTS

If prior permission is sought (and granted) for submitting an assignment after the deadline, or if there are circumstances outside your control for a delay, there will be no grade penalty. Otherwise, assignments submitted after the set deadline will not be graded.

GRADE APPEALS

ASU has formal and informal channels to appeal a grade. If you wish to appeal any grading decisions, please see: http://catalog.asu.edu/appeal

ACTIVE VIEWING

Sometimes (let's be honest, most times) it's great to sit down and let a movie wash over you — to experience it without thinking too much.

This is not how we'll be watching movies in this class. But don't worry — most of the movies we'll be watching together are even better when you're concentrating on what they're saying, and what insights we might get from them.

We'll be using an approach called *active viewing*. This involves paying close attention and taking notes while watching the movies. But to help you, here are some simple guidelines:

Come prepared. Make sure you are primed before each movie, by having read the week's chapter and completed the pre-reflection.

Pay attention. Every aspect of a movie — from the music, to the atmosphere, to the subtle expressions and body language of actors — can convey information, and spark new ideas. Pay attention to everything!

Focus. Before each movie, you should have identified three ideas or topics in your pre-reflection. Actively look for anything in the movie that is relevant to these, and that stimulates interesting and new insights into them.

Be inspired. Embrace the serendipity of new and novel ideas and insights that you weren't expecting.

Make connections. Look for common threads between different movies. These might be similar ideas, or different perspectives on the same idea. But they could also be as simple as the same actor, or producer, or composer, being associated with different movies, or similar settings or locations, or narrative arcs. Be imaginative in the connections you make!

Listen to more than the words. The soundscape (including the music) of a movie carries with it an amazing amount of information, and can change how you perceive the movie!

Be critical — but don't get lost in your critique. be critical of the movie — challenge it's assumptions, its plausibility, it's use or misuse reality and fiction, it's story telling. But don't let these spoil your enjoyment — "bad" movies can still inspire great ideas!

Make notes. Don't assume you'll remember any of those great ideas that struck you in the middle of a scene, if you didn't write them down.

Enjoy the movie. Active viewing should never mean boring viewing!

IMPORTANT DATES

JUST SO YOU KNOW …

January 11	Set up digital portfolio, and complete the "About Me" page. Read Chapter 1 of *Films from the Future.*
January 14	Read Chapter 2 of *Films from the Future*, and post your pre-reflection on *Jurassic Park* to your digital portfolio.
January 18	Post your post-reflection on *Jurassic Park* to your digital portfolio.
January 21	Read Chapter 3 of *Films from the Future*, and post your pre-reflection on *Minority Report* to your digital portfolio.
January 25	Post your post-reflection on *Minority Report* to your digital portfolio.
January 28	Read Chapter 4 of *Films from the Future*, and post your pre-reflection on *Never Let Me Go* to your digital portfolio.
February 1	Post your post-reflection on *Never let me Go* to your digital portfolio.
February 4	Read Chapter 5 of *Films from the Future*, and post your pre-reflection on *Limitless* to your digital portfolio.
February 8	Post your post-reflection on *Limitless* to your digital portfolio.
February 11	Read Chapter 6 of *Films from the Future*, and post your pre-reflection on *Elysium* to your digital portfolio.
February 15	Post your post-reflection on *Elysium* to your digital portfolio.
February 18	Read Chapter 7 of *Films from the Future*, and post your pre-reflection on *Ghost In The Shell* to your digital portfolio.
February 22	Post your post-reflection on *Ghost In The Shell* to your digital portfolio.
March 11	Read Chapter 8 of *Films from the Future*, and post your pre-reflection on *Ex Machina* to your digital portfolio.
March 15	Post your post-reflection on *Ex Machina* to your digital portfolio.

March 18   Read Chapter 9 of *Films from the Future*, and post your pre-reflection on
              Transcendence to your digital portfolio.

March 22   Post your post-reflection on *Transcendence* to your digital portfolio.

March 25   Read Chapter 10 of *Films from the Future*, and post your pre-reflection on *The Man in
              the White Suit* to your digital portfolio.

March 29   Post your post-reflection on *The Man in the White Suit* to your digital portfolio.

April 1   Read Chapter 11 of *Films from the Future*, and post your pre-reflection on *Inferno* to
              your digital portfolio.

April 5   Post your post-reflection on *Inferno* to your digital portfolio.

April 8   Read Chapter 12 of *Films from the Future*, and post your pre-reflection on *The Day
              After Tomorrow* to your digital portfolio.

April 12   Post your post-reflection on *The Day After Tomorrow* to your digital portfolio.

April 15   Read Chapter 13 of *Films from the Future*, and post your pre-reflection on *Contact* to
              your digital portfolio.

April 19   Post your post-reflection on *Contact* to your digital portfolio.

April 22   Read Chapter 14 of *Films from the Future*.

April 26   Post your final essay on your digital portfolio.

April 29   Post your self-evaluation on your digital portfolio.

WEEKLY SCHEDULE

WEEK 1:   INTRODUCTION AND OVERVIEW

Jan 8

THEMES

We'll establish the course expectations, goals, objectives and format. We'll preview what's in store for the course, and dig into how emerging complex and powerful technologies might potentially affect up the future. We'll set the scene for exploring the intersection between science, innovation, society, human values, expectations and aspirations, through movies. We'll discuss the relevance of movies as an expression of imagination and creativity, together with the aesthetic experience they represent, as a way to gain insights into potential futures. And we'll talk about science and how it's portrayed in science fiction movies.

PRE-CLASS READING

Chapter 1 of *Films from the Future*.

WEEK 2:   JURASSIC PARK (1993)

"God help us, we're in the hands of engineers!" — Dr. Ian Malcolm

Jan 15

THEMES

When Dinosaurs Ruled the Earth. Gene editing, complexity, and social responsibility.

De-Extinction. The technology of bringing back extinct species.

Could We, Should We? The ethics and responsibility of cutting edge science.

The Butterfly Effect. "Chaos theory", and developing new technologies within complex and chaotic systems.

Visions of Power. Innovation in an age of mega entrepreneurs, and profit-driven science.

PRE-CLASS READING

Chapter 2 of *Films from the Future*.

WEEK 3:   NEVER LET ME GO (2010)

"Who'd make up stories as horrible as that?" - Ruth

Jan 22   THEMES

Sins of Futures Past. Cloning, human rights, social norms, and moral cowardice.

Cloning. The science, technology, and ethics, human reproductive cloning.

Genuinely Human? Evaluating the rights of individuals in the face of transformative technologies.

Too Valuable to Fail? Technology innovation and the moral imperative.

PRE-CLASS READING

Chapter 4 of *Films from the Future*.

WEEK 4:   MINORITY REPORT (2002)

"If there's a flaw, it's human - it always is" — Danny Witwer

Jan 29   THEMES

Criminal Intent. Predicting intent, pre-emptive justice, ethics of innovation, and the law.

The "Science" of Predicting Bad Behavior. The use of science and technology in attempts to predict criminal tendencies.

Criminal Brain Scans. fMRI, behavior prediction, and the ethics of pre-emptive justice.

Machine Learning Based Precognition. Using AI-based techniques to attempt to predict and prevent criminal behavior.

Big Brother, Meet Big Data. The challenges of making sense of privacy in a data-rich, interconnected world.

PRE-CLASS READING

Chapter 3 of *Films from the Future*.

WEEK 5:   LIMITLESS (2011)

"I don't have delusions of grandeur, I have an actual recipe for grandeur." Eddie Morra

Feb 5   THEMES

A Pill for Everything. Cognitive enhancement, equity, and intelligence.

The Seduction of Self-Enhancement. Introducing chemical substance-based approaches to chemical enhancement, and the drivers behind their development and use.

Nootropics. The science and technology of using pharmaceuticals to alter cognitive abilities.

If You Could, Would You? The ethics and norms of personal cognitive enhancement.

Privileged Technology. Social equity and differential access to future cognitive enhancements.

Our Obsession with Intelligence. Exploring the nature and value of intelligence.

PRE-CLASS READING

Chapter 5 of *Films from the Future*.

WEEK 6:   ELYSIUM (2013)

"They are armed, and I'd like them dead" - Carlisle

Feb 12   THEMES

The Poor Shall Inherit The Earth. Social justice and access to technology innovation.

Bioprinting our Future Bodies. The emerging technologies behind 3D printing tissues and organs, and the opportunities and challenges they raise.

The Disposable Workforce. Workplace safety and justice in a technologically advanced future.

Living in an Automated Future. The challenges and opportunities of automation.

PRE-CLASS READING

Chapter 6 of *Films from the Future*.

WEEK 7:   GHOST IN THE SHELL (1995)

"As an autonomous life-form, I request political asylum" — Puppet Master

Feb 19   THEMES

Through a Glass Darkly. Augmentation, cyber-convergence, and identity.

Body Hacking. Cyber-augmentation and transhumanism.

More than "Human"? The challenges and opportunities of physical and neural augmentation.

Plugged In; Hacked Out. Cybersecurity and the connected brain.

Your Corporate Body. Who will own your augmented self?

PRE-CLASS READING

Chapter 7 of *Films from the Future*.

WEEK 8:   RECAP AND REVIEW

Feb 26   FOCUS

Discussing themes and ideas that come out of the first six movies, and exploring their relevance to the risks and benefits inherent in an increasingly technologically and scientifically complex future.

March 5   SPRING BREAK

WEEK 9:   EX MACHINA (2014)

"One day the AIs are going to look back on us the same way we look at fossil skeletons on the plains of Africa. An upright ape living in dust with crude language and tools, all set for extinction." — Nathan Bateman

March 12   THEMES

Plato's Cave. Artificial intelligence (AI), permissionless innovation, and emergent risk.

The Lure of Permissionless Innovation. The pros and cons of innovation without checks and balances.

Technologies of Hubris. The myths, realities, opportunities, and dangers, of technological hubris.

Superintelligence. Framing the plausible challenges and opportunities of AI.

Artificial Manipulation. How vulnerable are we to being psychologically and socially manipulated by future AI?

PRE-CLASS READING

Chapter 8 of *Films from the Future*.

WEEK 10:   TRANSCENDENCE (2014)

"You know what the computer did when he first turned it on? It screamed." — Bree Evans

March 19   THEMES

Visions of the Future. Technological convergence and existential risk.

Technological Convergence. The emergence, nature of, and implications of, converging technologies and the Fourth Industrial Revolution.

Enter the Neo-Luddites. Exploring the moral boundaries between promoting and resisting innovation.

Techno-Terrorism. The myths and realities of direct action opposing technology innovation.

Exponential Extrapolation. The dangers of extrapolating non-linear trends in tech innovation into the future.

Make-Believe in the Age of the Singularity. Avoiding the lure of the fantastical and scientifically implausible when considering the future.

PRE-CLASS READING

Chapter 9 of *Films from the Future*.

WEEK 11:   THE MAN IN THE WHITE SUIT (1951)

"Why can't you scientists leave things alone? What about my bit of washing, when there's no washing to do?" - Mrs. Watson

March 26   THEMES

There's Plenty of Room at the Bottom. Nanotechnologies, and control of the material world.

Mastering the Material World. Emerging trends in nanoscale science and engineering.

Myopically Benevolent Science. The potential consequences of well-intentioned but ill-conceived science and techmology.

Never Underestimate the Status Quo. The tension between innovation and social/economic resistance.

It's Good to Talk. The importance of multi-stakeholder engagement in technology innovation .

PRE-CLASS READING
Chapter 10 of *Films from the Future*.

WEEK 12:   INFERNO (2016)

"If a plague exists, do you know how many governments would want it and what they'd do to get it?" — Sienna Brooks

April 2   THEMES

Decoding Make-Believe. Ideology, biotech, harmful intent, and responsible innovation.

Weaponizing the Genome. Genetic manipulation, dual-use innovation, gain-of-function research, and nefarious intent.

Immoral Logic? Bioethics, and the danger of justifying extreme actions on the basis of future extrapolation.

The Honest Broker. Bridging the divide between science and politics.

Dictating the Future. Exploring who decides which technological futures play out.

PRE-CLASS READING
Chapter 11 of *Films from the Future*.

WEEK 13:   THE DAY AFTER TOMORROW (2004)

"We were wrong" - Vice President Becker

April 9   THEMES

Our Changing Climate. Climate change, geoengineering and social/technical transitions.

Fragile States. The challenges of surviving and thriving on a dynamic and precarious planet.

A Planetary "Microbiome". Exploring the balance and coupling between planetary systems and society.

The Rise of the Anthropocene. Introducing and exploring the concept of the anthropocene.

Building Resiliency. The nature of resiliency in a dynamic world.

Geoengineering the Future. The technology, ethics, and potential impacts, of geoengineering.

PRE-CLASS READING

Chapter 11 of *Films from the Future*.

WEEK 14:   CONTACT (1997)

"OK to go" - Ellie Arroway

April 16   THEMES

An Awful Waste of Space. Science, belief, curiosity, wonder, and meaning.

More than Science Alone. The dynamic between belief, passion, vision, purpose, and science.

Occam's Razor. Tempering imagination with critical thinking, and grappling with the limits of evidence.

What if we're not alone? What the possibility of extra terrestrial life says about us and our future.

PRE-CLASS READING

Chapter 13 of *Films from the Future*.

WEEK 15:   WRAP UP

April 23   THEMES

In this last class we'll tie together some of the emerging themes and insights that have arisen through the course.

PRE-CLASS READING

Chapter 14 of *Films from the Future*.

IMPORTANT ADDITIONAL INFORMATION

PLEASE READ

This syllabus is subject to change. It is your responsibility to read e-mail updates from the instructor as well as check the blackboard site for alterations made as events occur. Communication will be through your @ASU.EDU email only – please make sure you check it daily. E-mail questions and concerns from students are encouraged. The Instructor will try to respond to e-mailed questions within 48 hours.

READ THE SYLLABUS!

I know it's pointless including this, because of you're here, you're reading the syllabus! But do read the syllabus carefully and frequently — it contains everything you need to pass the course, and excel in it. If you loose points because of a dumb mistake, the chances are, you didn't read the syllabus, and I'm not likely to be sympathetic.

BLACKBOARD

All course materials, and assignments — including rubrics and assignment submissions — will be handled through Blackboard. The course Blackboard site will go live at least a week before the course starts — if you're having trouble accessing it, please email the course instructor.

DIGITAL PORTFOLIOS

This course uses digital portfolios. You will need to set up your course portfolio by following the "Digital Portfolio" menu item in Blackboard. Further information and help on Digital Portfolios can be found at https://asu.digication.com/get_help_asu_eportfolio_resources/Welcome23/published

If you need help with your Digital Portfolio, please ask!

COURSE BIBLIOGRAPHY

A bibliography of resources for the course (including copies of papers and links to articles, where appropriate) will be included on Blackboard. These will include websites, articles, papers, and books, referenced in the course text *Movies From The Future*, and should be used for additional reading and research, and the final course essay.

COURSE EVALUATIONS

Course and instructor evaluations are extremely important to ensure the continued quality and relevance of this course. The course/instructor evaluation for this course will be conducted online 7-10 days before the last official day of classes of each semester or summer session. Response(s) to the course/instructor are anonymous and will not be returned to your instructor until after grades have been submitted.

The use of a course/instructor evaluation is an important process that allows the School for the Future of Innovation in Society to help faculty improve their instruction; to help administrators evaluate instructional quality; to ensure high standards of teaching; and to ultimately improve instruction and student learning over time.

Completion of the evaluation is not required for you to pass this class and will not affect your grade, but your cooperation and participation in this process is critical. About two weeks before the class finishes, watch for an e-mail with "ASU Course/Instructor Evaluation" in the subject heading.

ACADEMIC INTEGRITY

Academic honesty is expected of all students in all examinations, papers, laboratory work, academic transactions and records. The possible sanctions include, but are not limited to, appropriate grade penalties, course failure (indicated on the transcript as a grade of E), course failure due to academic dishonesty (indicated on the transcript as a grade of XE), loss of registration privileges, disqualification and dismissal. For more information, see https://provost.asu.edu/academic-integrity.

If you fail to meet the standards of academic integrity in any of the criteria listed on the university policy website, sanctions will be imposed by the instructor, school, and/or dean. Academic dishonesty includes borrowing ideas without proper citation, copying others' work (including information posted on the internet), and failing to turn in your own work for group projects. Please be aware that if you follow an argument closely, even if it is not directly quoted, you must provide a citation to the publication, including the author, date, and page number. If you directly quote a source, you must use quotation marks and provide the same sort of citation for each quoted sentence or phrase. You may discuss assignments with other students, however, all writing that you turn in must be done independently. If you have any doubt about whether the form of cooperation you contemplate is acceptable, ask the TA or the instructor in advance of turning in an assignment. Please be aware that the work of all students submitted electronically can be scanned using SafeAssignment, which compares them against everything posted on the internet, online article/paper databases, newspapers and magazines, and papers submitted by other students. Turning in an assignment (all or in part) that you completed for a previous class is considered self-plagiarism and falls under these guidelines. Any infractions of self-plagiarism are subject to the same penalties as copying someone else's work without proper citations. Students who have taken this class previously and would like to use the work from previous assignments should contact the instructor for permission to do so.

STUDENT STANDARDS

Students are required to read and act in accordance with university and Arizona Board of Regents policies, including: The ABOR Code of Conduct: Arizona Board of Regents Policies 5-301 through 5-308: https://eoss.asu.edu/dos/srr/codeofconduct.

ELECTRONIC DEVICES IN THE CLASSROOM

Phones and other devices
Students should turn off cellphones and/or other devices (iPods, etc.) before they enter the classroom and keep them stored in their bags. The first time a phone or electronic device causes a distraction or disruption in class, the instructor will request that the student turn off the device. After the second offense, students will be asked to leave the classroom and will lose credit for any further participation in class for that day. Multiple offenders will have points taken off of the final grade.

Laptops/Computers
Use of laptops during class will be permitted for note taking or class approved activities. For the first occurrence, students who are obviously distracted by what they are viewing on their laptop will be asked to put the device away. After the second offense, students will be asked to leave the classroom and will lose credit for any further participation in class for that day. Multiple offenders will have points taken off of the final grade.

PROFESSIONALISM IN THE CLASSROOM

While learning happens throughout ASU, the classroom is a particularly important focal point. Students are asked to contribute to a collegial atmosphere where ideas can be exchanged, discussed, and debated freely by avoiding disruptions through their own behavior and the distractions of their technology. Disruptive, threatening or violent behavior will be dealt with according to the policies in the Student Services Manual, SSM 104–02. Students wishing to record lectures electronically must first get permission from the instructor.

ABSENCES

It is impossible to learn from your fellow students when you or they are not there. As such attendance is required in this course. Should you have to miss a class, contact your instructor as far in advance as possible. Depending on the nature of the absence the instructor may elect to deduct points from your overall grade. Absences can be excused for religious observances or practices that are in accord with ACD 304–04 or university sanctioned events/activities that are in accord with ACD 304–02.

PROHIBITION OF COMMERCIAL NOTE TAKING SERVICES

In accordance with ACD 304-06 Commercial Note Taking Services, written permission must be secured from the official instructor of the class in order to sell the instructor's oral communication in the form of notes. Notes must have the note taker's name as well as the instructor's name, the course number, and the date.

STUDENT SUPPORT AND DISABILITY ACCOMMODATIONS

In compliance with the Rehabilitation Act of 1973, Section 504, and the Americans with Disabilities Act of 1990, professional disability specialists and support staff at the Disability Resource Center (DRC) facilitate a comprehensive range of academic support services and accommodations for qualified students with disabilities. Qualified students with disabilities may be eligible to receive academic support services and accommodations. Eligibility is based on qualifying disability documentation and assessment of individual need. Students who believe they have a current and essential need for disability accommodations are responsible for requesting accommodations and providing qualifying documentation to the DRC. Every effort is made to provide reasonable accommodations for qualified students with disabilities. Qualified students who wish to request an accommodation for a disability should contact their campus DRC at: https://eoss.asu.edu/drc. If you are a student in need of special arrangements we will do all we can to help, based on the recommendations of these services. For the sake of equity for all students, we cannot make any accommodations without formal guidance from these services.

SEXUAL VIOLENCE AND HARASSMENT

Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at https://sexualviolenceprevention.asu.edu/.

As a mandated reporter, I am obligated to report any information I become aware of regarding alleged acts of sexual discrimination, including sexual violence and dating violence. ASU Counseling Services, https://eoss.asu.edu/counseling, is available if you wish discuss any concerns confidentially and privately.

DROP AND ADD DATES/WITHDRAWALS

Please refer to the academic calendar on the deadlines to drop/withdraw from this course. Consult with your advisor and notify your instructor if you are going to drop/withdraw this course. If you are considering a withdrawal, review the following policies: Withdrawal from Classes, Medical/Compassionate Withdrawal.

EMAIL COMMUNICATIONS

All email communication for this class will be done through your ASU email account and the blackboard site. You should be in the habit of checking your ASU email regularly as you will not only receive important information about your class(es), but other important university updates and

information. You are solely responsible for reading and responding if necessary to any information communicated via email. For help with your email log into your MyASU account and under the Service tab you can file a "new ticket" to get assistance.

CAMPUS RESOURCES

As an ASU student you have access to many resources on campus. This includes tutoring, academic success coaching, counseling services, financial aid, disability resources, career and internship help and many opportunities to get involved in student clubs and organizations.

Tutoring: https://tutoring.asu.edu/tutoring

Counseling Services: https://eoss.asu.edu/counseling

Financial Aid: https://students.asu.edu/financialaid

Major/Career Exploration: https://students.asu.edu/programs

Career Services: https://eoss.asu.edu/cs

Student Organizations: https://eoss.asu.edu/clubs