

THE MOVIEGOER'S GUIDE TO THE FUTURE

OVERVIEW

The Moviegoer's Guide to The Future is a unique introduction to cutting edge of emerging technologies and their socially responsible and ethical development and use. Whether your background is in science, engineering, the social sciences, the humanities, business, design, film, the arts, or pretty much any other area, this class will help you better-understand how your particular skills, knowledge and interests can help ensure the socially responsible development and use of cutting edge science and technology. And yes, we get to watch all twelve movies in class!

Using movies like *Jurassic Park*, *Ghost in the Shell*, and *Transcendence*, the course explores technologies that span 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 that we're facing today, such as climate change (with *The Day After Tomorrow*), and science and belief (through Carl Sagan's *Contact*).

Through these and other movies, we'll dive into the increasing complex relationship between science, technology and society, and begin to unpack how, through understanding this relationship better, we can help build a better, more responsible, science and technology-based future. Definitely not a course to miss if you're into science, technology and sci-fi, and want to make the world a better place!

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). ISBN 978-1633539075



WHAT YOU'LL LEARN IN THIS CLASS

KEY IDEAS AND CONCEPTS

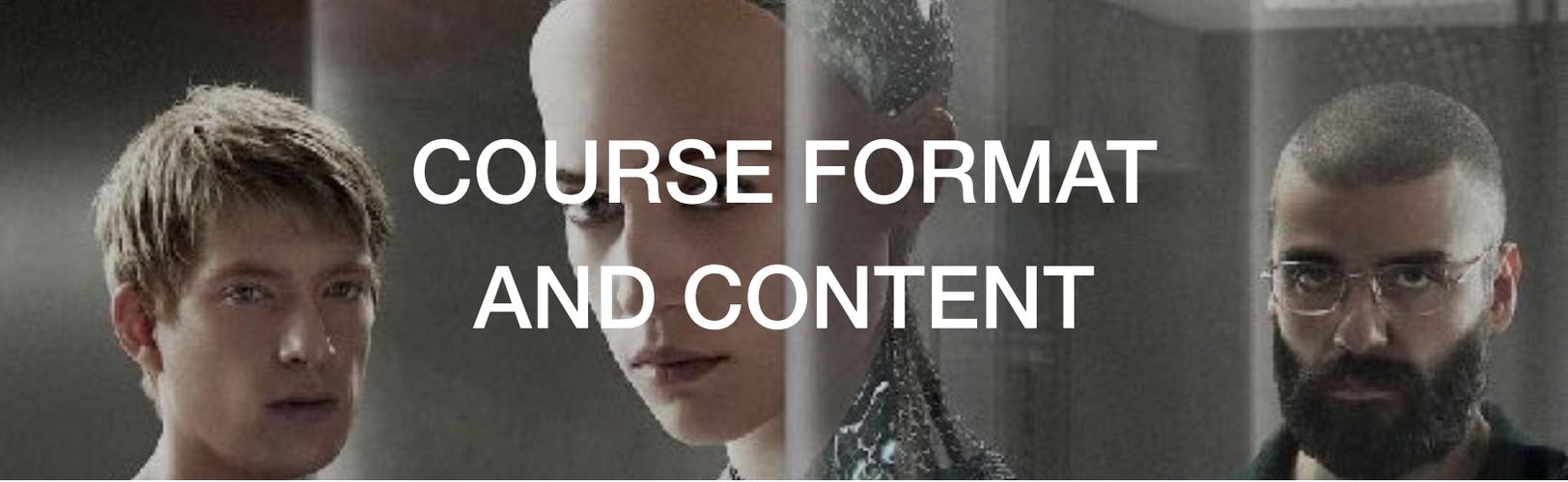
We cover a lot of ideas and concepts in this class, including:

- Current trends in emerging and converging science and technology.
- The process and nature of scientific discovery and technology innovation.
- 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.
- Power, influence, and innovation.
- The nature of science and belief.
- What it means to be human in a technologically complex age.

COURSE OUTCOMES

Following this class, you will 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 benefits 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. Topics include (but are not limited to) genetic engineering, cloning, human enhancement, artificial intelligence, nanotechnology, synthetic biology and geoengineering.
- Describe some of the key ideas and challenges associated with responsible innovation.
- Discuss 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, ethical, and socially responsible science and technology.



COURSE FORMAT AND CONTENT

CANVAS

You will be using Canvas for all aspects of this course. The course is split into modules to guide you through readings, discussions, classes and more. Please familiarize yourself with the Canvas modules, and work through the introductory module (Module 0), before classes begin.

COURSE TEXT BOOK

You will need to obtain a copy of the book *Films from the Future The Technology and Morality of Sci-Fi Movies* before the class begins. You' be reading chapters in preparation for many of the course classes, and there will be graded assignments based on the book. The good news is that this is not your typical text book. *Films from the Future* is a popular science and technology book that was written to be easy and enjoyable to read, while making you think!

You're encouraged to use either the hard back version of the book, or the ebook version (which is available in several formats). It's also OK to use the audiobook version, although it's not recommended as it's much harder to make notes from an audiobook.

If you have any difficulties getting hold a copy of the text, please let your course instructor know as soon as possible!

MOVIE WATCHING

Yes, we watch whole movies, from start to end, in this course! We do this intentionally, as there are things you can learn and insights you can get from watching complete movies that you can't get from watching short snippets, or simply reading about them. But this does mean that you need to watch these movies using a specific approach if you are going to succeed in the class.

The approach we use is called active viewing, and there are guidelines for this further down in the syllabus. Essentially, you will prepare for what you will be looking out for before each movie, and you will watch while actively paying attention to how the movie provides new insights and connects with new ideas.

YELLOWDIG ENGAGE

Throughout this course, you are encouraged to discover, explore and develop new ideas and ways of thinking through this class. And as a part of this process, we will be making extensive use of Yellowdig Engage. Yellowdig is a social media-like environment for sharing ideas and responding to others that allows you to learn by engaging with others around topics that grab your interest. Please take the time to work through the Yellowdig introductory module at the very start of the course, so you are prepared to hit the ground running!

IMPORTANT: You earn points on Yellowdig each week through creating posts and responding to posts from others in the class. If you don't meet your points goals for the week, ***you can not make these up in yellow dig later on.*** Because of this, it's incredibly important that you engage on Yellowdig each day!

IDEAS-ORGANIZER EXERCISES

In this course, we will be making extensive use of "ideas-organizer" exercises to support and evaluate learning against course objectives. These are exercises where you are asked to provide short responses to a series of questions, such as listing quotes from readings that stand out to you, or identifying things you've learned, or that surprise you, or highlighting questions or areas that you're interested in.

The ideas-organizer exercises are an important part of helping you focus on the readings and movies and learn from them, as well as helping you marshal and develop your own ideas and perspectives. They also form part of the course assessment, and contribute to your final grade.

Tip: Use your responses to these exercises to stimulate ideas for your posts on Yellowdig.

ASSIGNMENTS

In addition to the weekly pre- and post-class work, class attendance, and engaging with other students on Yellowdig, there are three assignments spaced throughout the course where you will be asked to write ~500 words about specific topics. The last of these is a self-reflection, where you will be asked to discuss what you have learned with respect to the course objectives, and to provide evidence for this.

A TYPICAL WEEK

Weekly reading (~1 hour per week) Before each class, you'll be required to read a specified chapter from the class text (*Films from the Future*) that sets the scene for the week. This will introduce the movie you'll be watching (in 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.

Five Most Important Sentences (~1/2 hour per week) Following the reading, you'll be required to complete an ideas-organizer exercise that asks you to identify five sentences from the readings that stand out to as being of interest/relevance. This is intended to help you focus on ideas in the reading that particularly stand out to you.

Pre-movie 1-2-3 (~1/2 hour per week) Before each class, you'll complete a graded ideas-organizer exercise. In the exercise, you'll be asked to identify **one** question you had from the reading, **two** things that you learned about science, technology and society from the reading, and **three** ideas or topics you'll be focusing on while watching the week's movie that are inspired by the reading.

In-class movies (~3 hours per week) Most week's we'll watch a sci-fi movie together, and discuss it as a class. You'll be engaging in "active watching" (see below) where you'll be actively exploring how each movie in the class 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 as a class specific insights that we can take away from it.

Discussing new ideas, technologies, challenges and insights (~2 hours per week) Much of the learning in this class comes through the online discussions you'll have with other students using Yellowdig. This is where you'll have the opportunity to share your ideas, thoughts and insights with others, and to respond to theirs.

Through Yellowdig, you will be able to earn points through posting your own comments, responding to others, and other people responding to you. We'll set the environment up so that there are multiple themes you can post on, including themes such as sci-fi movies, emerging technologies, ethical and responsible innovation, weird science, and breaking news. **You will need to be active on Yellowdig through the week to earn full points each week.**

Innovation Insights (~1 hour per week) At the end of each week, you'll complete a graded ideas-organizer exercise. This will be based on the week's book chapter, movie, class discussions, and Yellowdig Engage posts and discussions. In the exercise, you'll be asked to identify **three** things that you learned, **two** things that interested you, and **one** thing that surprised you.

Written assignments (~1 hour per week on average) In modules 4, 8, and 15, you'll have written assignment that help you develop and articulate your ideas around specific topics. The last one of these assignments will be a self-assessment of how you have met the learning objectives of the class through the course, drawing on your previous assignments and your Yellowdig posts.



GRADED TASKS AND ASSIGNMENTS

Your final grade in this class will depend on the following tasks and assignments (see the next section for the grade structure):

ORIENTATION (NOT GRADED, BUT REQUIRED)

At the start of the course, you will be expected to complete a number of short assignments that will help orient you to the course and ensure you are prepared what's to come! These are not graded, but you do need to complete them in order to progress on to the course modules.

FIVE MOST IMPORTANT SENTENCES

Each week before class and following the reading, you'll be required to complete an ideas-organizer exercise that asks you to identify five sentences from the reading that stand out to as being of interest/relevance.

Points will be subtracted where there is little evidence that you have read the book chapter or given much thought to your responses.

PRE-MOVIE 1-2-3

Each week before class, you'll be required to complete a pre-movie ideas-organizer, where you'll be asked to identify:

1. **One** question you had from the reading.
2. **Two** things that you learned about science, technology and society from the reading. And
3. **Three** ideas or topics you'll be focusing on while watching the week's movie that are inspired by the reading.

You will not be graded on this assignment if you miss the posting deadline.

Your responses to the ideas-organizer are intended to guide your active watching of the movie, your participation in class discussions, and your participation on Yellowdig. **It is essential that you read the relevant book chapter carefully before completing the thoughts-organizer.**

You will be graded on completing the ideas-organizer with thoughtful responses. Points will be subtracted where there is little evidence that you have read the book chapter or given much thought to your responses.

CLASS PARTICIPATION

Part of your grade will depend on you attending class and actively watching the movie with the rest of the class. Each week, a sign-in sheet will be circulated in class, and points will be deducted for absences where permission hasn't been given ahead of time (unless it's an emergency of course!)

Please make sure you sign the sheet each week, and ask if it hasn't reached you or you missed it!

If you need to miss a class, please ask permission **before the day of the class**.

You are also strongly encouraged to engage in discussions in class. You will not be penalized if you don't engage in the discussion. However, the class will be a lot more fun if you jump in with your own ideas and thoughts!

And to be clear — we consider this class to be a safe space where no question is considered to be a dumb question, and everyone is respected and treated with civility.

YELLOWDIG ENGAGE DISCUSSION

Between Module 1 and Module 14, you will be expected to engage with others around interesting ideas, information and perspectives, using Yellowdig. If you haven't used this platform before, you are strongly encouraged to pay close attention to the orientation module in Canvas (in Module 0). This is a fun and engaging environment where you get to discuss your thoughts, ideas and insights with others, and get points for posts, responses to others, and others responding to you.

Each week, you will need to earn 1000 points to achieve the maximum Yellowdig grade for that week. The good news is that your Yellowdig dashboard will show you how you're doing! But you need to make sure you're on the ball, as once a new week starts, you can't make up for missed points!

Tip: Make sure you spend some time each day on Yellowdig — if you leave things to the last minute, you will not be able to make your points for the week. And engage with others as much as you can. As you do, you'll be surprised at how fast you build up points.

INNOVATION INSIGHTS

At the end of each module, you'll be required to complete an ideas-organizer, where you'll be asked to identify:

1. **Three** things that you learned.
2. **Two** things that interested you. And
3. **One** thing that surprised you.

These should be based on the week's book chapter, the movie, class discussions, and Yellowdig posts and discussions.

You will not be graded on this assignment if you miss the posting deadline.

ARTICLES

Through the semester, you will be asked to complete **two** written assignments that encourage you to dig deeper into some of the overarching themes of the course. For each assignment, you will be graded on the clarity with which you express your thoughts and ideas (including use of language and grammar), as well as the learning you demonstrate through these.

The two assignments are:

1. **Article 1:** A ~500 word article on the theme of: “Three reasons why scientists and technologists should watch more science fiction movies.” Your article should explore some of the potential benefits of watching and learning from or being inspired by science fiction movies if you are studying science, technology, and/or engineering, or are working in these areas. You should draw on what you are learning in class. At the same time, you should include your own ideas and perspectives in the essay. You should also feel free to disagree with the idea of scientists and technologists watching more science fiction movies — this is about developing and articulating your own ideas, and not about writing what you think the instructor wants to hear! And please read the rubric closely — your article will be graded against the rubric posted on Canvas, which includes conventions of standard English, narrative flow, use of evidence, and the way you explore new ideas.
2. **Article 2:** A ~500 word article based on the theme of “Just because we can, doesn’t mean we should.” Your article should pick one or more technological theme from the course (for example, de-extinction, cloning, smart drugs, human augmentation, or brain machine interfaces.), and explore the tension between what we can or might be able to do with the technology, and the potential risks and benefits associated with this. You should build your arguments on ideas and insights from others (please cite your sources) and your own reasoning. Again, please read the rubric closely— your article will be graded against the rubric posted on Canvas, which includes conventions of standard English, narrative flow, use of evidence, and the way you explore new ideas.

Article rubric

The following descriptions of elements of the rubric may help as you write your articles:

Conventions of standard English: The article uses correct spelling, punctuation, grammar, use of complete sentences, and an appropriate use of paragraphs (Note: paragraphs can be long or short, and have as few or as many sentences as they need. But they should separate out ideas and themes). Points will be deducted for sloppily written and poorly edited articles.

Narrative flow: Thoughts, ideas and perspectives presented in the article are expressed clearly, and within a well-structured narrative that has a clear beginning, middle, and end. Develop your ideas and arguments in a logical sequence that makes sense to the reader.

Use of evidence: Support your ideas, points, and statements with evidence, as much as possible. Evidence may include peer reviewed articles and papers, online articles, web pages, even social media on occasions. You can use hyperlinks (recommended for web-based evidence), in-text citations (see the example below), or a combination. The important thing is to provide a way for readers to find

the evidence you used and read it for themselves. And remember that primary sources are always better than secondary sources.

In-text citations: An example might be Maynard (2016) in the text, and a reference section at the end of the article with:

Maynard, A. (2016) Is nanotech failing casual learners?. *Nature Nanotech* 11, 734–735. <https://doi.org/10.1038/nnano.2016.167>

Ideas: The article shows evidence of you developing and exploring interesting and new ideas related to the theme. Try and bring your own ideas, thoughts and perspectives to the article, and provide new and interesting perspectives on the topic.

SELF-ASSESSMENT

At the end of the course, you will be required to submit a ~500 word self-assessment that demonstrates the extent to which you have made progress toward each of the class' course outcomes. This should be a brief summary of evidence that draws from from your previous assignments and Yellowdig posts, 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. Your aim should be to show the course instructor what you have learned, so that they can rapidly assess your progress. 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.



GRADING

GRADING

Your overall course grade will be determined based on the weightings below:

Five Sentences	10%
Pre-Movie 1-2-3	10%
Participation in Class	5%
Yellowdig Engage	20%
Innovation Insights	15%
Article 1	10%
Article 2	20%
Self Assessment	10%

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+	90.0-92.9/93.0-97.9/98.0-100	Excellent
B-/B/B+	80.0-82.9/83-87.9/88.0-89.9	Good
C/C+	70.0-76.9/77.0-79.9	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.

Yellowdig Engage points must be earned on a week by week basis—points cannot be retrospectively given for late posts.

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-Movie 1-2-3 assignment.

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 its assumptions, its plausibility, its use or misuse of reality and fiction, its 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!

A photograph of three people sitting on a grassy dune. On the left, a woman with dark hair in a light green jacket sits looking towards the right. In the center, a woman with blonde hair in a tan jacket sits with her hands clasped. On the right, a man in a dark jacket sits looking towards the camera. The background shows tall grasses and a sandy dune under a grey sky. The text 'IMPORTANT DATES' is overlaid in large white letters in the center of the image.

IMPORTANT DATES

Please refer to Canvas



SCHEDULE

MODULE 0: ORIENTATION

Before classes begin, you'll be required to complete an orientation module on Canvas. This will include completing a course introduction, learning about active viewing, reviewing the course syllabus and schedule, taking the Yellowdig Engage crash course, and indicating your readiness for classes.

You will not be able to open subsequent modules until you have completed Module 0

ASSIGNMENTS

Getting Started Tasks
Yellowdig Engage orientation

MODULE 1: INTRODUCTION AND OVERVIEW

CLASS

[Date]

PRE-CLASS ASSIGNMENTS

Read chapter 1 of *Films from the Future*.
Five Most Important Sentences assignment
Engage on Yellowdig

THEMES

We'll go over 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. We'll have an introduction to active viewing. And we'll talk about science and how it's portrayed in science fiction movies.

POST-CLASS ASSIGNMENTS

Engage on Yellowdig

MODULE 2: JURASSIC PARK (1993)

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

CLASS

[Date]

PRE-CLASS ASSIGNMENTS

Read chapter 2 of *Films from the Future*.

Five Most Important Sentences assignment

Pre-Movie 1-2-3 assignment

Engage on Yellowdig

CONTENT

We'll be watching and discussing the movie Jurassic Park together in class, and reading about and discussing topics that are related to/inspired by it.

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.

POST-CLASS ASSIGNMENTS

Engage on Yellowdig

Innovation Insights assignment

MODULE 3: NEVER LET ME GO (2010)

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

CLASS

[Date]

PRE-CLASS ASSIGNMENTS

Read chapter 3 of *Films from the Future*.

Five Most Important Sentences assignment

Pre-Movie 1-2-3 assignment

Engage on Yellowdig

CONTENT

We'll be watching and discussing the movie *Never Let Me Go* together in class, and reading about and discussing topics that are related to/inspired by it.

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.

POST-CLASS ASSIGNMENTS

Engage on Yellowdig

Innovation Insights assignment

MODULE 4: MINORITY REPORT (2002)

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

CLASS

[Date]

PRE-CLASS ASSIGNMENTS

Read chapter 4 of *Films from the Future*.

Five Most Important Sentences assignment

Pre-Movie 1-2-3 assignment

Engage on Yellowdig

CONTENT

We'll be watching and discussing the movie *Minority Report* together in class, and reading about and discussing topics that are related to/inspired by it.

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.

POST-CLASS ASSIGNMENTS

Engage on Yellowdig Engage

Innovation Insights assignment

Article 1 due end of [Date]

MODULE 5: LIMITLESS (2011)

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

CLASS

[Date]

PRE-CLASS ASSIGNMENTS

Read chapter 5 of *Films from the Future*.

Five Most Important Sentences assignment

Pre-Movie 1-2-3 assignment

Engage on Yellowdig

CONTENT

We'll be watching and discussing the movie *Limitless* together in class, and reading about and discussing topics that are related to/inspired by it.

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.

POST-CLASS ASSIGNMENTS

Engage on Yellowdig

Innovation Insights assignment

MODULE 6: ELYSIUM (2013)

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

CLASS

[Date]

PRE-CLASS ASSIGNMENTS

Read chapter 6 of *Films from the Future*.

Five Most Important Sentences assignment

Pre-Movie 1-2-3 assignment

Engage on Yellowdig

CONTENT

We'll be watching and discussing the movie *Elysium* together in class, and reading about and discussing topics that are related to/inspired by it.

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.

POST-CLASS ASSIGNMENTS

Engage on Yellowdig

Innovation Insights assignment

MODULE 7: GHOST IN THE SHELL (1995)

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

CLASS

[Date]

PRE-CLASS ASSIGNMENTS

Read chapter 7 of *Films from the Future*.

Five Most Important Sentences assignment

Pre-Movie 1-2-3 assignment

Engage on Yellowdig

CONTENT

We'll be watching and discussing the movie *Ghost in the Shell* together in class, and reading about and discussing topics that are related to/inspired by it. We'll also be reviewing how the class is going so far.

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?

POST-CLASS ASSIGNMENTS

Engage on Yellowdig

Innovation Insights assignment

SPRING BREAK

NO CLASS

[Date]

MODULE 8: 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

CLASS

[Date]

PRE-CLASS ASSIGNMENTS

Read chapter 8 of *Films from the Future*.

Five Most Important Sentences assignment

Pre-Movie 1-2-3 assignment

Engage on Yellowdig

CONTENT

We'll be watching and discussing the movie *Ex Machina* together in class, and reading about and discussing topics that are related to/inspired by it.

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?

POST-CLASS ASSIGNMENTS

Engage on Yellowdig
Innovation Insights assignment
Article 2 due [Date]

MODULE 9: TRANSCENDENCE (2014)

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

CLASS

[Date]

PRE-CLASS ASSIGNMENTS

Read chapter 9 of *Films from the Future*.
Five Most Important Sentences assignment
Pre-Movie 1-2-3 assignment
Engage on Yellowdig

CONTENT

We'll be watching and discussing the movie *Transcendence* together in class, and reading about and discussing topics that are related to/inspired by it.

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.

POST-CLASS ASSIGNMENTS

Engage on Yellowdig
Innovation Insights assignment

MODULE 10: 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

CLASS

[Date]

PRE-CLASS ASSIGNMENTS

Read chapter 10 of *Films from the Future*.
Five Most Important Sentences assignment
Pre-Movie 1-2-3 assignment
Engage on Yellowdig

CONTENT

We'll be watching and discussing the movie *The Man in the White Suit* together in class, and reading about and discussing topics that are related to/inspired by it.

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 technology.

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 .

POST-CLASS ASSIGNMENTS

Engage on Yellowdig
Innovation Insights assignment

MODULE 11: 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

CLASS

[Date]

PRE-CLASS ASSIGNMENTS

Read chapter 11 of *Films from the Future*.
Five Most Important Sentences assignment
Pre-Movie 1-2-3 assignment
Engage on Yellowdig

CONTENT

We'll be watching and discussing the movie *Inferno* together in class, and reading about and discussing topics that are related to/inspired by it.

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.

POST-CLASS ASSIGNMENTS

Engage on Yellowdig
Innovation Insights assignment

MODULE 12: THE DAY AFTER TOMORROW (2004)

"We were wrong" - Vice President Becker

CLASS

[Date]

PRE-CLASS ASSIGNMENTS

Read chapter 12 of *Films from the Future*.
Five Most Important Sentences assignment
Pre-Movie 1-2-3 assignment
Engage on Yellowdig

CONTENT

We'll be watching and discussing the movie *The Day After Tomorrow* together in class, and reading about and discussing topics that are related to/inspired by it.

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.

POST-CLASS ASSIGNMENTS

Engage on Yellowdig

Innovation Insights assignment

MODULE 13: CONTACT (1997)

“OK to go” - Ellie Arroway

CLASS

[Date]

PRE-CLASS ASSIGNMENTS

Read chapter 13 of *Films from the Future*.

Five Most Important Sentences assignment

Pre-Movie 1-2-3 assignment

Engage on Yellowdig

CONTENT

We'll be watching and discussing the movie *Contact* together in class, and reading about and discussing topics that are related to/inspired by it.

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.

POST-CLASS ASSIGNMENTS

Engage on Yellowdig

Innovation Insights assignment

MODULE 14: WRAP UP

"Don't panic!" - The Book

CLASS

[Date]

PRE-CLASS ASSIGNMENTS

Read chapter 14 of *Films from the Future*.

Five Most Important Sentences assignment

CONTENT

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

POST-CLASS ASSIGNMENTS

Self Assessment (due end [Date])



IMPORTANT ADDITIONAL INFORMATION PLEASE READ

This syllabus is subject to change, and will always be superseded by the syllabus on Canvas. It is your responsibility to read e-mail updates from the instructor as well as check the Canvas site for updates. 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.

Please note that the syllabus posted on Canvas for the course supersedes this syllabus if there are inconsistencies and conflicts

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.

CANVAS

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

COURSE BIBLIOGRAPHY

A bibliography of resources for the course (including copies of papers and links to articles, where appropriate) will be included on Canvas. 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 USE DURING CLASS

Phones and other devices

There may be occasions where phones, tablets and laptops may be expected to be used in class to participate in quizzes, do online research, or for other purposes. However, it is expected that students do not use electronic devices for non-class purposes during class time.

PROFESSIONALISM DURING CLASS

While learning happens throughout ASU, the class (whether remote or in person) 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>

