HPSC0013 Science and Popular Culture
Course Syllabus

2023-2024 session | Dr Michel Wahome | m.wahome@ucl.ac.uk

Course Information

Science and technology permeate popular culture. From Attenborough's documentaries, sci-fi films like Avatar, and TV series like Black Mirror, science and popular culture are deeply intertwined. In this module we explore science in popular culture using theories from the social sciences including STS, cultural studies, and media studies. Science and popular culture are related in ways that you might not think! I will suggest that they are actually "co-constructed and mutually shaping".

As with any module, your active participation in the group and taking responsibility for your own learning are crucial. Together, we will learn about makes knowledge and meaning, through popular culture. We will develop our skills as researchers, and as critical consumers and producers of knowledge and media. We will think about how cultural production and scientific and technological production influence one another; shaping the future before it exists.

Key themes of this module are 1) thinking about how science and culture shape one another, 2) the relationships between producers and publics, 3) thinking about how science is represented (both in terms of *who* is represented when knowledge is produced and why this matters) and 3) thinking about science and popular culture in terms of dominant cultural practices. **Key theories** in this module are communications theory, theories about publics/audiences/users, patterns of knowledge consumption and how this is affected by identity (class, 'race'/ethnicity, geography, gender, sexuality, ability/disability and their intersections), and feminist and post-colonial approaches to understanding culture.

Basic course information

Course website:	See moodle	
Moodle Web site:	https://moodle.ucl.ac.uk/course/view.php?id=7422	
Assessment:	40% Media Analysis Assignment, 60% essay	
Timetable:	In-person seminars: Fridays, 9-11am. Drayton House B20 Jevons LT	
Prerequisites:	None	
Required texts:	See syllabus (below), reading list & moodle	
Course tutor(s):	Dr Michel Wahome	Contact: m.wahome@ucl.ac.uk
Office location:	22 Gordon Square, room 2.1	
Office Hours:	In-person: Thursdays 1500-1700. Online: by appointment. Email to book an appointment	

Schedule

UCL Week	Topic	Date
6	Week 1. Introduction to Science in Popular Culture: Art, Science, the Collective Imagination and the Circuit of Culture	October 6
7	Week 2. Television & Communicating Science	October 13
8	Week 3. Film, Meaning making and language Part I	October 20
9	Week 4. Film, Making and language Part II	October 27
10	Week 5. Digital Media and Identity	November 3
	Reading Week	
12	Week 6. Science Fiction & Representation	November 17
13	Week 7. News Production & News Values	November 24
14	Week 8: Advertising & Regulation	December 1
15	Week 9. Fan-Fiction and (Counter)Programming	December 8
16	Week 10. New Stories that Learn From the Past	December 15

Weekly Readings and practical activities can be found on course Moodle page.

Course Design

This module revolves around the idea that science, society, politics and culture are mutually co-constructed. Studying these interactions is important because it can help us learn who we are, how we are shaped by society, and how we can contribute to shaping it in return.

Drawing on theories from cultural studies, media studies, sociology and, of course, science and technology studies, we will look at science in popular culture as a *system,* its *media* and *genres* to try to understand what is being created by this system. We will discuss how culture and science interact. Who are the producers, consumers and regulators of science in popular culture? What does this matter for our individual identities and our shared societies?

Objectives:
By the end of this module students should be able to:
- critically engage with a range of forms of science-related popular culture;
- convey how science, technology and society are related;
- demonstrate knowledge of the relevant literature for the module;
- demonstrate awareness of procedures in qualitative data analysis;
- reflect on the role of popular culture in the evolution of scientific debate;

Activities:

1. Read the Essential Readings and Participate in Seminar Activities

We will have a weekly seminar where *your participation matters!* During the seminar we will review core ideas and engage in discussion.

Each week has list of essential readings. (There is a list of additional readings--these give you a solid starting point if you focus your media analysis assignment or essay on that week's topic. I would expect to see at least some of them in your essay's reference list too).

After week 1, you will organise into reading groups/teams. You may wish to divide up the readings amongst yourselves and create notes that summarise them to one another.

There will be other activities that introduce you to qualitative date analysis, namely coding and the analysis of themes emerging from data sources.

Assessments

Description	Deadline	Word limit
Media analysis assignment	November 22, 2023	1000 *1000 for Level 6/iBSc students
Summative coursework	January 10, 2024	2000 *2500 for Level 6/iBSc students

1) Media Analysis Project, 40%

Word limit 1000 words. Please note that the word limit for iBSc students/students taking the module at level 6 is 1500 words.

For this assignment, you will have to select **ONE** piece of science in popular culture and you will need to critically analyze it, and reflect on its STS credentials. See if you can connect it to or critique it using a particular reading or theory. The piece can be:

- A feature published in a newspaper
- A popular science book
- A novel
- A museum or science centre display
- An image (photograph, painting, portrait)
- A film (fiction or documentary)

- A TV programme
- A website (including blogs)
- A theatre play
- An advertisement
- A podcast
- A radio show
- A children's book
- An album or artist's discography
- A You Tube vlog

Your analysis should try and answer the following questions and you must use some of the theoretical tools from your knowledge of STS:

- What is the piece under scrutiny about?
- How does it relate to the topic of the course (science in popular culture)? And what makes it interesting in relation to that topic?
- What does analyzing this piece of science in the media enable you to claim about science in popular culture?

Media Analysis Assignments must be structured, written documents. They **must** include a title and a reference list.

If you need clarification come and talk to me about it during my office hours. This is a creative assessment, that allows you to share your (supported) opinion and some people have a lot of fun with it, but it is really useful to have support figuring out what artefact to analyse.

2) Summative Coursework, 60%

Word limit: 2000. Please note that the word limit for iBSc students/students taking the module at level 6 is 3000 words.

You will write a 2000 words to answer one of the following five questions:

1. Use your essay to argue for or against the idea that popular culture can change societal attitudes to climate change. Consider the topic of news values and think about how framing plays a role in the effectiveness of a message. George Monbiot is a regular contributor to the Guardian on matters of the environment. Counter or support (aka critique) the ideas in this [article](#) to build your argument.

2. Listen to the [Bricks and Mortals](#) podcast, that goes with the museum programme built by Subhadra Das, Curator of the Petrie Collection here at UCL. You can do the full walking tour around parts of the UCL Bloomsbury campus neighbourhood, she gives instructions on the same page & everything is outside. While you listen, think about our discussion on science museums and science centres. Imagine that you were to curate a public exhibition on a science subject of your choice, how would you make it accessible and relevant to a wide audience?

3. You work for a media production house that is developing a documentary on a complex scientific topic. You have been asked by a higher up to prepare a brief essay for the scientists on the team, that explains how audiences interact with and learn from media. The essay should essentially be a recap of the communications theories that you have engaged with, but written for a scientist audience. What does your essay say?

4. Citizen science, fan-fiction, co-production and activism are some of the ways that the categories of 'producer' and 'consumer' have been blurred. Using examples, the idea of 'produsage' and explain its benefits to science communicators.

We will discuss the essay and how best to prepare for them during our classes. Main points:

- As with any essay (& the media analysis assignment above) it is crucial to make use of module reading material, the concepts taught in the module and to go beyond these with **your own** research and reading.

- Your essay **must** have an argument and that argument **must** be apparent to readers.

- Essays **must** be structured, that is, they **must** include the title, sub-titles and a reference list.

- The references **must** be correct in the main text and in the reference list. Avoid any interpretation of your work as exhibiting plagiarism at all costs.

Assessment criteria for all coursework are those found in the STS students' handbook. You should make sure you have a really good look at them & come and talk with me if you want to figure out what they mean for these assessments in more detail.

Week 1. Introduction to Science in Popular Culture: Art, Science, the Collective Imagination and the Circuit of Culture

Science is a methodology for understanding and interpreting the world. In our current age, it is the pre-eminent way through which we, contemporary humans, interpret the world which means it shapes our culture. We also use the knowledge that it provides us to create technologies that further impact our culture. We will focus on this idea of science as a facet of culture.

This week we will cover the overarching framework for the class which is theories on how society (specifically its cultural dimensions) and scientific production influence one another. We will also discuss the goals of the class, the assessment structure & map out the next nine learning sessions and b) draw on ideas about how society develops norms and values.

Essential Readings:
1. Du Gay, Paul, Hall, Stuart, Janes, Linda, Madsen, Anders, Koen, Mackay, Hugh, & Negus, Keith (2013). Introduction to the first edition, pp. xxviii – xxxii AND Chapter 1: Making Sense of the Walkman, pp. 2-35. *Doing cultural studies: The story of the Sony Walkman*. Thousand Oaks, CA.: Sage.
2. Sumitran Basu (2023) Three Decades of Social Construction of Technology: Dynamic Yet Fuzzy? The Methodological Conundrum, *Social Epistemology*, 37:3, 259-275, DOI: 10.1080/02691728.2022.2120783

Additional Readings:
1. Martin, J. L. (2010). Life's a beach but you're an ant, and other unwelcome news for the sociology of culture. Poetics, (Amsterdam), 38(2), 229–244.
2. Brooke, J. (2014). Visions of the Past: Religious Belief and the Historical Sciences. In Science and Religion: Some Historical Perspectives (Canto Classics, pp. 307-373). Cambridge: Cambridge University Press.
3. Wajcman, Judy. "Practising Science as Culture." Science as culture 17.3 (2008): 345–347.
4. Graefer, A. (2016). "Reading" Through the Skin: Lady Gaga's Online Representation and Affective Meaning-Making. Journal of Popular Culture, 49(3), 522–540.
5. MacKenzie, Donald and Wajcman, Judy, eds. (1999). "Introductory essay: the social shaping of technology". MacKenzie, D., and Wajcman, J., eds. (1999) The social shaping of technology. 2nd ed., Open University Press, Buckingham, UK.
6. Miles, Andrew, & Gibson, Lisanne (2016). Everyday participation and cultural value. Cultural Trends, 25(3), 151-157.

Week 2. Television & Communicating Science

This week we will turn to television in order to tackle communication theories. Watching television has been found to be a ubiquitous cultural practice in the UK. What happens when you engage with programming? We will also begin to practice qualitative data analysis techniques.

Essential readings:
1. Hall, Stuart (1980). Encoding/decoding. In S. Hall (Ed.), *Culture, Media, Language: Working Papers In Cultural Studies, 1972-79* (pp. 107-116). Birmingham: Unwin Hyman (Publishers) Ltd.

Additional Readings:
2. Dingwall, Robert, & Aldridge, Meryl (2006). Television wildlife programming as a source of popular scientific information: a case study of evolution. *Public Understanding of Science, 15*(2), 131-152.
3. Davies, Sarah. R., & Horst, Maja. (2016). "Science communication as culture". Pp. 1-28 in *Science Communication: Culture, Identity and Citizenship*. London: Palgrave.

Weeks 3 & 4. Film & Language

This week we will continue the discussion on language and meaning making using the film genre to reflect the role that cultural production plays in our construction of shared meaning. Popular culture sits within a legacy of socio-political issues about authority, expertise and whose stories count. We will use the film 'Arrival' to engage with these themes. We will think about the implications of popular versus high-brow' or 'elite' forms of culture and to question what forms of knowledge, culture and practice are being validated and which are being rendered invisible or insignificant, and consider why thinking about this is important.

Watching 'Arrival':
1) Who is associated with science and technology in the film? 2) How do you know they are associated with science in the film, do they say the word "science"? Do they wear special clothes? Do they have 'kit' or a laboratory? 3) How are science and technology represented as good and bad? 4) How are science and technology 'used' in the story? 5) How are other ways of understanding nature represented in the story? 6) If Avatar is an analogy for dynamics on Earth, what lessons can we draw from it? [3 hours]

Essential readings:
1. Kirby, D. A. (2014). Science and technology in film: Themes and representations. In *Routledge Handbook of Public Communication of Science and Technology*, Second Edition (pp. 97–112).
2. Hall, Stuart. (Ed.), Recent developments in theories of language and ideology: a critical note, *Culture, Media, Language: Working Papers In Cultural Studies, 1972-79* (pp. 147-153). Birmingham: Unwin Hyman (Publishers) Ltd.

Additional readings:

3. Sterne, J. (2014). Media Analysis Beyond Content. *Journal of Visual Culture*, 13(1), 100–103.

Week 5. Science Fiction & Representation

This week we'll explore the role of Sci-Fi in popular science, and focus on both how Sci-Fi is understood and what 'work' these kinds of imaginaries do for science and society. We will analyse how science and technology are represented in these films, what the implications of such representation might be. We will talk about other theories of representation and discuss the socio-political and historic context of such representations.

Essential readings:
1. Chow-White, P. A., Deveau, D., & Adams, P. (2015). Media encoding in science fiction television: Battlestar Galactica as a site of critical cultural production. *Media, Culture & Society, 37*(8), 1210-1225.

Additional Reading:
1. Hall, Stuart. (2013). "The work of representation". Pp. 1-47 in *Representation, Second Edition.* (Eds). Hall, Stuart, Evans, Jessica and Nixon, Sean. The Open University Press: Milton Keynes.
2. Carrington, Andre M. (2016). 'Introduction: The whiteness of science fiction and the speculative fiction of blackness', pp. 1-29 in *Speculative Blackness: The Future of Race in Science Fiction*. London and New York: University of Minnesota Press.
3. Steinke, Jocelyn. (2017). Adolescent Girls' STEM Identity Formation and Media Images of STEM Professionals: Considering the Influence of Contextual Cues. *Frontiers in Psychology, 8* (716).

Week 6. Digital Media & Identification

This week we will turn to information and communications technologies (ICTs), including socials to discuss how technologies shape our identities in the 'real world'. Social media platforms, in particular, play a contentious role in the popular science landscape. It has been implicated in 'anti-science' rhetoric, yet it is also part of broader, socio-political histories of journalism, political debate and education.

Essential readings:
1. Odumosu, T. Making Mobiles African Mavhunga, C.C. (Ed.), (2017)., in: *What Do Science, Technology, and Innovation Mean from Africa?,* The MIT Press, p. 137 – 150
2. Brookwell, I. (2020). "Gamer Citizens": Emojis as Civic Duty in a Circuit of Visual Culture. Visual Resources, 36(4), 360–381.

Additional readings:
3. Agar, J. (2009). Review of Cell Phone Culture: Mobile Technology in Everyday Life, by G. Goggin. *Technology and Culture*, 50(3), 726–728

Week 7. News Production & News Values

This week we examine how science is reported in the news. We learn more about media effects, specifically we will talk about framing and news values. In other words, what makes science newsworthy, why do some stories make it to print? We will be thinking about who produces and who consumes science in the news.

Essential readings:
1. Post, S., Bienzeisler, N., & Lohöfener, M. (2021). A desire for authoritative science? How citizens' informational needs and epistemic beliefs shaped their views of science, news, and policymaking in the COVID-19 pandemic. *Public Understanding of Science* (Bristol, England), 30(5), 496–514.

Additional readings:
2. Nelkin, Dorothy (1995). Chapter 1, pp. 1 – 23 in Selling science. New York: W.H. Freeman and Company.
3. Fjaestad, Bjorn (2007). Why journalists report science as they do. In M. W. Bauer & M. Bucchi (Eds.), Journalism, science and society (pp. 123-132). New York and Abingdon: Taylor and Francis.

Week 8. Advertising & Regulation

This week we explore advertising and its effects and use this as an entry to a discussion of regulation and risk. We will also consider how science/tech have been potrayed in adverts throughout the ages and consider what we can learn about social change.

Essential readings:
1. Dodds, Rachel. E., Tseëlon, Efrat, & Weitkamp, Emma. L. C. (2008). Making Sense of scientific claims in advertising. A study of scientifically aware consumers. *Public Understanding of Science, 17*(2), 211-230.
2. Williams, R. (2000). Advertising: the Magic System. *Advertising & Society Review, 1*(1). Williams, Raymond. 1980. Advertising: The magic system. In *Problems in Materialism and Culture*. London: Verso, 170–195. Reprinted with the permission of the author's estate.

Additional readings:
3. Benecke, D. ., Simpson, Z., Le Roux, S., Skinner, C. ., van Rensburg, N. J., Sibeko, J., … Meyer, J. (2017). Cultural intermediaries and the circuit of culture: The Digital Ambassadors project in Johannesburg, South Africa. Public Relations Review, 43(1), 26–34.

Week 9. Fan-Fiction and (Counter)Programming

So far we've discussed science in popular culture that is produced for audiences. We touched on how digital media platforms challenge ideas in the circuit of culture about who the producer is. This week we will build on this to think in more depth about 'user-generated content' (whether it's fan-fiction, activism or something else).

Essential readings:
1. Bird, S. E. (2011). Are we all produsers now? *Cultural Studies, 25*(4-5), 502-516.
2. Orthia, L. A. (2020). Strategies for including communication of non-Western and indigenous knowledges in science communication histories. *Journal of Science Communication*, 1-17.

Additional readings:
3. Hyysalo, S., 2009. User innovation and everyday practices: micro-innovation in sports industry development. *R & D management*, 39(3), pp.247–258.

Week 10. New Stories That Learn from the Past

In this final class, we will use all the ideas we have been learning about to think about why and how we can contribute to the cultural imaginary. We will think about how popular versus high-brow', 'special' or 'elite' have been framed in the past, how science has fit within this framework and to question what forms of knowledge, culture and practice are being validated and which are being rendered invisible or insignificant, and to think about why this is important.

Essential readings:
1. Das, S., & Lowe, M. (2018). Nature Read in Black and White: decolonial approaches to interpreting natural history collections. *Journal of Natural Science Collections*, 6, 4-14.
2. Lynall, G. (2022). Solarpunk. In A. Johns-Putra & K. Sultzbach (Eds.), *The Cambridge Companion to Literature and Climate* (Cambridge Companions to Literature, pp. 191-200). Cambridge: Cambridge University Press.

Additional readings:
3. el Nabolsy, Z., 2020. Amílcar Cabral's modernist philosophy of culture and cultural liberation. *Journal of African cultural studies*, 32(2), pp.231–250.
4. Frank A. J. L. James (2016) Introduction: Some Significances of the Two Cultures Debate, *Interdisciplinary Science Reviews*, 41:2-3, 107-117