

HPSC0008 Science Communication and Public Engagement

Course Syllabus

2020-21 session | Dr Cian O'Donovan | c.o'donovan@ucl.ac.uk

Course Information

This interdisciplinary course introduces the public dimensions of science and technology. Drawing on sociology, history, cultural, media and communication studies it explores the relationship between the professional world of science and the social, cultural and personal spaces in which science contributes to the shaping of society. It also develops students' critical analysis skills with respect to the communication of science in different public contexts including the news media, museums, fiction and online. Ultimately it aims to develop students' skills in academically interrogating science communication and engagement.

Basic course information

Moodle:	https://moodle.ucl.ac.uk/course/view.php?id=38541
Assessment:	Essay (50%), unseen exam (50%)
Timetable:	www.ucl.ac.uk/timetable
Course tutor:	Dr Cian O'Donovan
Course Teaching assistant	Scott Keir scott.keir.18@ucl.ac.uk
Contact:	c.o'donovan@ucl.ac.uk
Web:	https://www.ucl.ac.uk/sts/people/dr-cian-odonovan
Office location:	22 Gordon Square
Office hours:	Primary slot: 12pm-1pm Monday (via MS Teams – book via Moodle form) Tuesday and Wednesday, 2pm to 5pm by confirmed appointment (via MS Teams – book via Moodle form)

Schedule

Session	UCL Week	Topic	Topic week beginning	Feedback given*	Focus of weekly activities**
1	6	Introduction to Science in Public	Mon 5 th Oct	Mon 5 th Oct	Introduction to how the activities will operate. Reflecting on personal involvement in science outside formal studies
2	7	Models of science communication – where did this all come from?	Tue 6 th Oct	Mon 12 th Oct	Working together online: Analysis of historical excerpts of science communication – discussion of models
3	8	Thinking about contemporary science communication and engagement	Tue 13 th Oct	Mon 19 th Oct	Analysis of measurement of publics and their “understanding” of science – discussion of models
4	9	What is the science in science communication?	Tue 20 th Oct	Mon 26 th Oct	Discussion of examples (these will be circulated early in the week)
5	10	Who is a scientist? Who are the public? Who is a communicator?	Tue 27 th Oct	Mon 2 nd Nov	Discussion of examples (these will be circulated early in the week)
	11	Reading Week			No lecture or tutorial
6	12	Science in Television and Film <i>Expert guest lecturer (Dr. Jean-Baptiste Gouyon)</i>	Tue 3 rd Nov	Mon 16 th Nov	Analysis of science films and television programmes
7	13	Science in Museums <i>Expert guest lecturer (Scott Keir)</i>	Tue 17 th Nov	Mon 23 rd Nov	Reporting on a visit to a science centre or museum (online or offline)
8	14	Science in the News	Tue 24 th Nov	Mon 30 th Nov	Science in news reporting analysis / Preparation for your assessment
9	15	Science Online	Tue 1 st Dec	Mon 7 th Dec	Essay writing preparation
10	16	Science communication in face-to-face contexts	Tue 8 th Dec	Mon 14 th Dec	Essay due on 15 th December, 5pm

* Feedback and discussion on weekly activities will be given online, and for those students attending the in-person session, on Monday afternoons at 3pm on campus.

**Specific instructions relating to each week’s activities are available on Moodle

Note about teaching in 2020-21

In the months leading up to the start of term, staff in the STS department have drawn on expertise and best practice across the department and university in designing Covid-19 appropriate modules. For **Science Communications**, we have taken the decision to focus on *asynchronous teaching*. That is, teaching where students don't have to be in the same place at the same time every week. We have done this in order to respond to the needs of a diversity of students and staff who are located in a variety of time zones, have differing access to computers and internet, and have different abilities to meet together in real life and online.

We are committed to ensuring the learning opportunities available to all students do not differ significantly in their learning outcomes. Some students will attend activity feedback and discussion sessions in-person at UCL. Others will receive in depth feedback and discussions online throughout the week.

All students will be provided a rich environment in which to individually participate, actively collaborate, and collectively discuss science communications every week, guided by Cian O'Donovan and Scott Keir.

In addition to this, Cian encourages students to let him know if they have ideas and suggestions for how this environment can be improved. If, for example, you would like more synchronous opportunities online, please discuss with fellow students and let Cian know, then we can discuss together ways we can evolve the module where appropriate and where possible.

Assessments

Summary

	Description	Deadline	Word limit
50%	Essay 1	15 th December 2020, 17:00	2500
50%	Written Exam	Date TBC	

Assignment: Critical Essay

Mark Walport said that “Science is not finished until it is communicated”. Using an example of a scientific topic or controversy prior to 2019, critically discuss the merits of Walport’s statement.

Due 15 December 2020, 17:00

Word limit: 2500 words

Contribution to final mark: 50%

You are free to choose whatever scientific topic or controversy is of most interest to you. It can be specific to the UK, to another country, or be globally relevant.

Using science communication theories and academic work to support your argument answer the following questions:

- **Q1:** What kind of communication was used in your chosen topic or controversy? Quote, cite, and show where possible, two specific examples of communication. You may take examples from, scientific media (such as Science or Nature), mainstream media, and – or – social media.
- **Q2:** Who is the communication aimed at? (and what evidence do you have to support this?), and who might be excluded from the communication and why?
- **Q3:** In what way(s) is science (re)presented?

Note: these questions are merely guides to help you structure your essay. The essay should be structured with an appropriate introduction, middle sections and conclusion. We will discuss this issue later on the module.

You may discuss an example mentioned in a lecture video, in reading material, or something that you have researched yourself. Remember to look ahead – lectures towards the end of term have many fascinating cases that might give you ideas. Remember also to consider offline as well as online forms of media and communication.

Please attach an appendix containing a copy of your chosen examples (or a weblink to where they are accessible). This appendix does NOT count towards your word count.

Guidance on writing a critical review

You should be addressing some or all of the following in your review:

- Addressing Walport's quote, what role does communication play in furthering the work of science or knowledge production?
- Where did your chosen example materials come from? Why might this be relevant to the content and how might the same message be different in a different context?
- What sort of model of science communication is implied here?
- How does this piece of communication fit with models of public understanding of science?
- How does your chosen topic and examples of science communications fit with the historical trends in science, communication and culture that have been discussed in class? What **academic papers** help you demonstrate this?

To answer these sorts of questions you need to provide evidence. Your evidence in this case will be the content and/or specific features of the piece of science communication. So try to point to the relevant sections/sentences/features of the piece when answering the question.

Remember, our primary interest in science communications is in the role communications plays in knowledge production, not specifically in the content of the 'science' itself. With that in mind, it is a good idea to introduce your chosen topic or controversy briefly (a few hundred words) but there is no need to give a comprehensive history. More important is the role communication played in this issue.

It is worth bearing in mind that this is a course about science communication, the theory, its practice and its implications. Thus your approach, and work, should focus on this as the main area of analysis. You should never be simply providing a descriptive account of the content of the science communication studied. The content of a piece of science communication is only relevant insofar as it allows you to answer more interesting questions about it (not just what did it say, anyone can read/watch something to answer that!)

Bear in mind also the difference between the research literature and your own experience. This is particularly important when dealing with popular culture or media, subjects which we are all familiar with and have experiences of in our every day lives.

You may experience the mass media and popular culture in one way, and thus form your own opinions about them but this does not mean that your experiences and opinions are representative of everyone else's. Sociology is about society not individuals. So be very wary of making statements like, "the public will think this...", "this won't make sense to the public..." or "this will make everyone think x". You may feel that way, but unless you have concrete evidence backing up such claims, these are simply unsubstantiated assertions based upon one person's experience.

You are at university to study these things in an academic and critical manner, so you should always ground your arguments and observations within the academic literature you have read. You should therefore justify your arguments through such mechanisms as sourcing, citing data, referencing, providing logical justification etc. There is nothing wrong with having personal opinions concerning an issue, but we want to see that you have engaged with the context and issues rather than simply writing a polemic, one-sided and unsubstantiated editorial on the topic! If you want to bring your own opinions or values to bear on your research, you need to make sure that you reflect on how these articulate with other viewpoints or values from within the literature.

Criteria for assessment

The departmental marking guidelines for individual items of assessment can be found in the STS Student Handbook. Further module specific criteria for assessment can be found on the module Moodle pages.

Module aims & objectives

Aims

The course aims to impart knowledge and understanding, at an introductory level, of:

- Concepts in public understanding of, and engagement with, science
- Public spaces for science, including the mass media, science museums and everyday life
- Cultural, social and political issues around science communication

Objectives

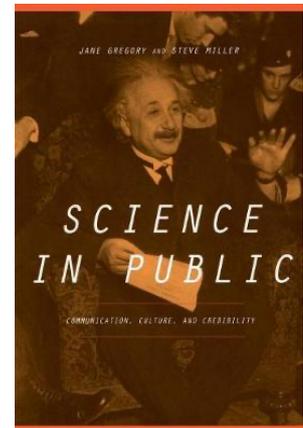
By the end of this module students should have:

- Knowledge and understanding of the basic concepts and scope of science communication
- A broad understanding of the cultural, social and political issues around science in public
- Skills in written and spoken communication
- Skills in relating personal experience to the ideas, tools and values of academic research
- Skills in the recognition, collection and analysis of research materials
- Skills in argumentation, listening and constructive dialogue
- Confidence in contributing in class

Reading list

There is no one book that covers this course.

Science in Public: Communication, Culture & Credibility (New York: Plenum/Perseus/Basic Books, depending on the date) by Jane Gregory and Steve Miller provides some useful background: it is a *secondary* text – that is, it collects and comments on the work of many different scholars – and is a guide to the primary literature that you will meet if you go on to study science communication at higher levels. It is also now quite old, so doesn't provide a great picture of contemporary developments, not least the shift to online communication. It is still, however, a great introductory book to help us understand the historical and Western cultural dimensions of science communication



Other useful books include:

- Gascoigne, T., Schiele, B., Leach, J., Riedlinger, M., Lewenstein, B. V., Massarani, L., & Broks, P. (Eds.). (2020). *Communicating Science: A Global Perspective*. Acton: ANU Press. <https://doi.org/10.22459/CS.2020> [Open access - free to download]

This is a new book in 2020 which offers a global perspective on Science Communication and

features work by members of the STS Department. This may be a rich source for weekly class tasks, and for ideas for the term-essay – and it's free to download.

Other useful books:

- Bell, P., Lewenstein, B. V, Shouse, A. W., & Feder, M. A. (2009). *Learning Science in Informal Environments: People, Places, and Pursuits*. Washington, DC: The National Academies Press. Available from http://www.nap.edu/catalog.php?record_id=12190.
- Brake, M. & Weitkamp, E. (Eds.), *Introducing Science Communication*. London, UK: Palgrave Macmillan.
- Holliman, R., Thomas, J., Smidt, S., Scanlon, E., & Whitelegg, L. (2009). *Practising science communication in the information age: Theorising professional practices*. Oxford, UK: Oxford University Press.

Additionally, Stella Cottrell has published an excellent text that will help you develop your critical thinking skills and essay writing, including worked examples to help you practice these skills. If you haven't read it already we strongly advise that you do so in preparation for your assessments on this course:

- Cottrell, S. (2005). *Critical thinking skills*. Developing effective analysis and argument. Basingstoke, UK: Palgrave Macmillan.

Finally, **essential weekly readings** are available on Moodle. **You are expected to have read the relevant texts in following your viewing of each lecture** at the start of each week. We have also compiled an extensive set of additional readings which will be provided to complement each lecture – these will allow you to delve more deeply into specific areas of interest and assist you in your critical review assessment. See each set of lecture slides for details.

Course expectations

Students are expected to view each weekly lecture package (videos available on Moodle) and carry-out associated online tasks. These practical tasks are set each week for discussion to tie in with the lecture content and further develop your communication skills and understanding. It is mandatory that you participate by engaging online in the manner directed weekly instructions. This includes self-directed reading, posting online to forums and other tools, and actively engaging with peers on Moodle and related platforms. Assistance with writing the required essay will also be given online.

Should the instructions present any difficulties in completing the tasks, please contact Cian O'Donovan as soon as possible.

Important policy information

Details of college and departmental policies relating to modules and assessments can be found in the STS Student Handbook www.ucl.ac.uk/sts/handbook

All students taking modules in the STS department are expected to read these policies.