Science and culture are presented as distinct but their boundaries are often crossed. Topics such as evolution, anti-depressants and gene editing are explored both in universities and in public debates. Studying how science and the media interact enables us to understand the place of science and technology in culture and how it is constructed. We will examine the promotion of research by scientists and their institutes, how journalists present science as newsworthy and relevant, and how members of the public search for and make sense of the information communicated. These topics will be explored through STS research of public engagement, boundaries between science and culture, and science messages in various contexts and media. In addition to theoretical foundations, we will apply engage with research methods, including semiotics, discourse analysis and media ethnography in exploring how topics from autism to climate change are represented and quarried. As part of this course we will tour the Science Museum and discuss the production of exhibitions and science documentaries with leading practitioners. The assessment will consist in one short oral presentation and an essay.
## Schedule

<table>
<thead>
<tr>
<th>UCL Week</th>
<th>Topic</th>
<th>Date</th>
<th>Preparation and Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>1. Inside and outside (Introduction)</td>
<td>04-Oct</td>
<td>Latour 1987; Haran et al., 2008</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Discussion; Q&amp;A about the course</td>
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<tr>
<td>7</td>
<td>2. Public Understanding of Science</td>
<td>11-Oct</td>
<td>Yearly, 2005; Hansen et al., 2003</td>
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<td></td>
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<td>Discussion of readings</td>
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<tr>
<td>8</td>
<td>3. Reporting Science in Context(s)</td>
<td>18-Oct</td>
<td>Jasanoff, 2005; Nisbet et al., 2003</td>
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<td></td>
<td></td>
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<td>Discussion of readings</td>
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<tr>
<td>9</td>
<td>4. Case study 1: Science and online participation</td>
<td>25-Oct</td>
<td>Hine 2014; Laslo et al., 2011</td>
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<td></td>
<td></td>
<td></td>
<td>Search and document online conversation</td>
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<td></td>
<td>Discussion of your observations and reading</td>
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<td>10</td>
<td>5. Case study 2: Selling science</td>
<td>01-Nov</td>
<td>Hellsten, 2002; Dodds et al., 2008</td>
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<td>Document a case of promotional science</td>
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<td></td>
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<td></td>
<td>Discussion of your observations and reading</td>
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<tr>
<td>11</td>
<td>Reading Week</td>
<td>No Seminar</td>
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<td></td>
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<td>Read chapters from The Island of Dr Moreau</td>
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<td>Discussion of the book and adaptation</td>
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<td>13</td>
<td>7. Case study 4: Representations of climate change</td>
<td>22-Nov</td>
<td>Hulme, 2009; Mellor, 2009</td>
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<td>Examine the representation of climate change (pairs)</td>
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<td>Discussion of your observations and reading</td>
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<tr>
<td>14</td>
<td>8. Meet the practitioner 1: Science in the Museum</td>
<td>29-Nov</td>
<td>Boon 2011; MacDonald, 1996</td>
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<td></td>
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<td>Visit to the science museum and discussion with curators</td>
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<tr>
<td>15</td>
<td>9. Meet the practitioner 2: Putting science on TV</td>
<td>06-Dec</td>
<td>Boon &amp; Gouyon, 2014; De Cheveigne &amp; Veron, 1996</td>
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<td>Talk and Q&amp;A with a producer/broadcaster</td>
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<td>Watch broadcasts and prepare a question or comment</td>
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<td>16</td>
<td>10. Students presentations</td>
<td>13-Dec</td>
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## Assessments

### Summary

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Deadline</th>
<th>Word limit</th>
<th>Deadline for Tutors to provide Feedback</th>
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<tbody>
<tr>
<td>ORAL</td>
<td>Presentation (30%)</td>
<td>13 December 2017</td>
<td>N/A</td>
<td>21 December 2017</td>
</tr>
<tr>
<td>CW</td>
<td>Essay (30%)</td>
<td>15 December 2017</td>
<td>1,500</td>
<td>21 December 2017</td>
</tr>
<tr>
<td>CW</td>
<td>Essay (40%)</td>
<td>15 December 2017</td>
<td>2,000</td>
<td>21 December 2017</td>
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</tbody>
</table>
Assignments

1. Oral Presentation

Presentations should be timed to last 07 minutes, and should include a Power Point presentation.

Possible topics for presentation may include:

- Critically analyse a website/webpage, OR a science documentary, OR a Science Museum display.
  The presentation should notably bring forward the kind of knowledge that is presented, how it is presented, what understanding of science underlies the object of study. The presentation should also reflect on the kind of audience expected or known for the chosen item or media, as well as formulating hypothesis about the way it is encountered by audiences. A related point is the variety of personal knowledge and experiences people bring to bear on their encounter with a piece of science in the media.

- Following a science story as it moves from one media to the other and examining how it is transformed along the way.
  The presentation should reflect on the causes and possible consequences of such transformations. Questions to ponder whilst preparing the presentation may include: Are different audiences addressed by different media forms? Do all media forms have the same objective? What role each media form play in the social construction of scientific facts?

- How is a specific topic covered in different media? The topic can be a research discipline (e.g. nanotechnology), discovery (e.g. gravitational waves), or issues of public concern (e.g. dementia) or debate (e.g. climate change). You can compare the representation of your topic of interest in 2-3 media items.

PLEASE NOTE: If you wish to do your presentation on another topic we can discuss it together beforehand.

2. Essays

Choose and write an essay responding to two questions in the list. Answer one in more concisely (1,500 words) manner and extend on the other (2,000 words):

1. Bruno Latour wrote: ‘The more esoteric a piece of technoscience the more exoteric has to be the recruitment of people’ (1987, p.158).
   Discuss this quote in relation to the role of the media in linking science with culture.

2. Discuss the notions of modest and virtual witnessing as relevant to scientists’ efforts to evidence and promote their research findings. Introduce historical and contemporary cases.

3. Should ignorance of science always be seen as a deficit to be remedied? Why would people choose to ignore “the facts”?

4. Identify and discuss three functions of science in the mass media. In your answer you should make use of specific examples.

5. Discuss the unique affordances for searching, sharing, and engaging with scientific information online. In which ways do websites and social media break or enhance the boundaries between producers and consumer of scientific knowledge?

6. How does the presentation of science in the media relate to the definition of the cultural boundaries of science?
7. While scientific knowledge is a resource for the media, the media can also be a resource for scientists. Discuss this assertion with specific reference to cases discussed in class.

8. Is the notion of accuracy at all relevant when discussing science fiction movies in relation to media, science and culture? Why?

PLEASE NOTE: You may want to write on another topic. If it were to be the case, please arrange an appointment, so that we can discuss it beforehand.

Specific Criteria for Assessment for this Module:
None

Aims and objectives

Aims

- To understand the role of media in placing science in culture but also as indicators of science's place in culture;
- to understand how media participate in the scientific enterprise and appreciate that media are a resource for scientists;
- to understand what kind of resource science is for the media;
- to understand how producers of media content work;
- to reflect on the intersection between science, media and culture on the one hand, and globalization on the other.

Objectives

By the end of this module students should be:

- familiar with key terms related to the history and social studies of science in the media;
- familiar with the different theoretical approaches and methods to studying science in the media;
- able to apply STS concepts as related to science communication and the Public Understanding of Science (PUS) in studying science in the media in relation to culture and politics.

Lecture readings and plans

The course is divided into three parts. In sessions 1 to 3 we will focus on theory and concepts while sessions 4 to 7 will apply what we learned in specific cases studies. Each of sessions 4 to 7 revolves around one medium, and will each contain a "methodological toolbox". Sessions 8 & 9 involve a talk followed by a Q&A with an external speaker, who is a practitioner of science in the media. The last session of the course will be devoted to students' presentations.

Each session is usually assigned with 2 Compulsory readings. They will form the basis for the class discussions. Optional additional readings are also suggested for each session. A full list of readings is given at the end of the syllabus. All essential readings are available via the course's page on Moodle. Each session will last two hours. A typical session will involve a 45-minute lecture on the topic for the day, and a class discussion based on the readings. Some sessions may also include some small group work. Students are expected to come prepared (this includes completing the readings and completing any preparatory activity as required), and to participate in the class discussion for each session.

Additional information: A visit to the Science Museum will be coupled with Session 8. Details will be discussed in class.
Session 1: Introduction: The inside and outside of the scientific enterprise (04 October 2017)

**Essential Readings:**

**Additional Readings:**

Is science separate or does it belong in culture? And what role do popular media play in connecting scientists with broader society? Examining the interplay of science with the media is a means of understanding 'Science’s place and placing in culture' (Cooter and Pumfrey, 1994), or what we might call the public culture of science. In this introductory session, we will work with the readings to look at boundaries between the inside and outside of science and will review the concepts of translating, enlisting and witnessing developed to explore the interactions between science, society, media and culture.

Session 2: Public understanding of science (11 October 2017)

**Essential Readings:**

**Additional Readings:**

Scholars in Science and Technology Studies (STS) have been arguing for a while now that the production of knowledge does not stop at the laboratory doorstep, but continues in public contexts,
like the media. According to STS scholarship, science in the media is an essential part of the production of knowledge, as it is what enables agreement to be reached at the social level on what counts as valid knowledge. In this session, we will consider what STS can bring to our understanding of the Media, Science and Culture nexus. We will look at the scholarship published in relation to the Public Understanding of Science STS criticism of the two-stage model of science communication.

Session 3: Reporting science in context(s) (18 October 2017)

Essential Readings:

Additional Readings:

Audiences' encounter with science through the media resonates within cultural, social and political contexts. Each of us brings to bear on any piece of science in the media when we encounter our life experience, personal history and social circumstances. To prepare for this session read Jasanoff and Nisbet’s accounts of biotechnology communication in the public domain. While Jasanoff emphasizes the regularities of national contexts, Nisbet shows how different contexts and images were used to frame this topic by various groups and following specific events. The contexts in which a piece of science in the media is produced will have an impact on what is said, shown, and how this is done. But as we will see, these contexts are not given but played-out, evoked and produced in relation to discoveries, public events, and policies.

Session 4: Case Study 1: Science and online participation (25 October 2017)

Methodological Toolbox: Ethnographical approach to media studies

Essential Readings:

Additional Readings:

This session will explore audiences’ involvement with science on new media. It is often asserted that online, especially social, media blur the boundary between knowledge producers and consumers who can contribute from their understanding and experience. But how do audiences actually use the internet to learn about science or participate in public debate? To prepare for this session read Hine’s study of online forums and Laslo et al.’s account of readers’ comments on a news website. Bring your own examples for the ways readers understand, respond to and try to set the tone for conversations around science.

You can search for examples in:
2. Threads following a YouTube video, Facebook share, a blog post, a forum discussion or a Subreddit.
3. Tweets about science-related hashtag (#climatechange, #GMO, #nanotech).

In examining an online conversation try to identify the sources for the information discussed, and participants’ claims, agendas, affiliations, and expertise. Write a short account of your search and findings which you can upload to moodle and bring to the discussion in class.

Session 5: Case Study 2: Selling science, selling with science (01 November 2017)
Methodological Toolbox: Social semiotics

Essential Readings:

Additional Readings:

The embedding of science and technology in late modern, post-industrial cultures is evidenced by the use of science and technology as referent in advertisements, be it to sell food stuff, cosmetics, cars, etc. And while advertisement appears as a medium for placing science in culture it is often the case that what is being marketed is science itself. In this session, we will explore the notion of “selling science” as involving scientist and media professionals, examine the use of science in advertising and how textual and visual
imagery are used in promoting science as a social good. To prepare for the seminar complete the readings and search for one example of science as used in advertising or of the use of imagery and promotional language in a news report about science. The examples you collect will be discussed in the second part of this session.

Session 6: Case Study 3: Science in fiction (15 November 2017)
Methodological Toolbox: Discourse Analysis

Essential Readings:

Additional Readings:

Novels and fiction films, as part of entertainment media, enjoy widespread currency. As such they can be said to play as important a role as information and educational media, and perhaps even more so, when it comes to fashioning the public culture of science.

In this session we will focus on one case, comparing a novel with one of its film adaptations. The novel, The Island of Dr Moreau (H.G. Wells, 1896) will be compared with a film adaptation released a century after the book was published (1996). By comparing the film with the novel, we will try and isolate what both can tell us of the public culture of science of their time, and try to reflect on the effect each may have had on the public culture of science.

In order to prepare for this session, you will need to familiarize yourself with H.G. Wells’ text. It can be borrowed from the library. Cheap paperback copies are available on Abebooks and photocopies of the relevant chapters will be made available.

Session 7: Case Study 4: Representations of climate change (22 November 2017)

Essential Readings:

Additional Readings:

The session will be devoted to applying what was said about different media in relation to science in earlier weeks. To this end we will consider how a same topic, climate change, is addressed,
represented or framed in different media. To prepare for this session complete the readings and search in pairs a representation of climate change in different media. Based on your discussion, write a short description of the way climate change is represented in your chosen media and bring your description to the discussion in class.

Session 8: Meet a practitioner 1: Displaying Science in the Museum (29 November 2017)

Essential Readings:

Additional Readings:

This session will be devoted to reflecting on how people working in a science museum work in order to put science and technology on display. It will particularly focus on understanding how audiences are taken into account when a display is assembled.

This session will be coupled with a visit of Mathematics: The Winton Gallery at the Science Museum, in London, with a talk by one of the curators to discuss the selection and design of the exhibits.
Session 9: Meet a practitioner 2: Putting science on TV (06 December 2017)

Essential Readings:

Additional Readings:

This session is devoted to science on television. It will involve a talk by a producer or broadcaster of science or health programme (tba). The talk will be followed by a Q & A. With this talk, we will try to understand how audiences participate in the process of production. You will prepare for this session by completing the readings, watching episodes of the selected programme and prepare at list one question or comment written down.

Session 10: Students presentations (13 December 2017)

Reading list


