

## **Science in the public interest? Responsible research in the Western world.**

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Course website: Chamilo online platform

### **Overview**

Researchers, policy-makers and citizens are calling for the advancement of responsible research. It is the contemporary expression of three long-standing concerns for:

1- **Responsible research practices:** do research funding and the system for publishing scientific articles encourage researchers to produce valid scientific knowledge? How does science communication evolve in the era of Internet and social networks?

2- **Social relevance of science:** Do research policies favour short-term outcomes over long-term benefits, economic impact on social relevance? Does research sufficiently anticipate its potential societal implications? Can industrial research serve the common good?

3- **Stakeholders' involvement in science:** how can social actors be involved in setting the objectives of scientific programmes and/or in their implementation? What can be expected from their involvement? Is it not only a matter of democratising decision-making processes in science but also of conducting research of better quality?

This course is open to any student who has an interest in science and who wishes to understand the economic, political and social dynamics that shape how scientific knowledge is produced and used in our contemporary societies.

No prerequisites in engineering or natural sciences required.

This course will draw on contemporary sociological research on science and technology. We will give specific attention to biomedical and health sciences to shed light on the Covid-19 pandemic. However, we will also talk about other areas of science that raise critical societal issues, such as climate science, environmental science, as well as data science and research on artificial intelligence.

### **Course objectives**

At the end of this course, students will have a better understanding of the functioning of research systems and they will be familiar with the issues that these systems are currently facing worldwide (on topics as diverse as the crisis of the scientific publication system, relations with the private sector, threats to the funding of basic and long-term research, the development of participatory science, etc.). They will also be able to apply this knowledge to concrete and topical examples.

## **Format and course work**

To prepare for each class, students will have to read one or two articles –a social science research article and/or newspaper article published for example in *The Conversation*– and they will occasionally have to listen to an audio/video document.

Each class will begin with a 30-minute discussion of these materials. This discussion will be followed by a 90-minute lecture. During the lecture, there will also be an emphasis on interactive learning with discussions and debates.

## **Evaluation**

Essay: in groups of four, students will complete an essay with a maximum of 7,000 words (plus bibliographic references and appendices). Topic and format will be discussed in class and during tutoring sessions.

## **General bibliography**

Bartling, S., & Friesike, S. (2014). *Opening science: The evolving guide on how the internet is changing research, collaboration and scholarly publishing*. Springer Open.

Felt, U., Fouché, R., Miller, C. A., & Smith-Doerr, L. (Eds.). (2017). *The handbook of science and technology studies*. MIT Press.

Hecker, S., Haklay, M., Bowser, A., Makuch, Z., & Vogel, J. (Eds.). (2018). *Citizen science: innovation in open science, society and policy*. UCL Press.

Nowotny, H., Pestre, D., Schmidt-Assman, E., Shultze-Fieltz, H., & Trute, H. H. (2005). The public nature of science under assault. *Hamburg: Springer*.

Nentwich, Michael & König, René. *Cyberscience 2.0: Research in the age of digital social networks*. Campus Verlag, 2012.

## **Outline**

Class 1 – Course presentation and introduction

### ***Responsible research practices***

Class 2 – Scientific peer review

Class 3 – Science communication in the digital age

### ***Social relevance of science***

Class 4 – Funding policies for science

Class 5 – The marketization of academic science

Class 6 – Firms and the production of ignorance

*Stakeholders' involvement in science*

Class 7 – From the public understanding of science to the public engagement in science

Class 8 – Citizen science, participatory science

Class 9 – Citizen science, participatory science (continued + wrap-up session)

**A few articles to start debating responsible research in the era of the Covid epidemic-19**

Coronavirus outbreak puts 'open science' under a microscope Quick release of data could stop an epidemic, disrupt how research is reported: <https://www.fredhutch.org/en/news/center-news/2020/02/covid19-open-science.html>

Coronavirus research done too fast is testing publishing safeguards, bad science is getting through <https://theconversation.com/coronavirus-research-done-too-fast-is-testing-publishing-safeguards-bad-science-is-getting-through-134653>

Funding basic science research is crucial to our coronavirus pandemic responses <https://theconversation.com/funding-basic-science-research-is-crucial-to-our-coronavirus-pandemic-responses-133762>

The hunt for a coronavirus cure is showing how science can change for the better <https://theconversation.com/the-hunt-for-a-coronavirus-cure-is-showing-how-science-can-change-for-the-better-132130>

Citizen science: how you can contribute to coronavirus research without leaving the house <https://theconversation.com/citizen-science-how-you-can-contribute-to-coronavirus-research-without-leaving-the-house-134238>