

## Scientific Communication

Academic Year: ( 2022 / 2023 )

Review date: 27-06-2022

Department assigned to the subject: Department of Communication and Media Studies

Coordinating teacher: ELIAS PEREZ, CARLOS JOSE

Type: Compulsory ECTS Credits : 6.0

Year : 2 Semester : 1

## REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Language and discourse

## SKILLS AND LEARNING OUTCOMES

## LEARNING OUTCOMES

- Critically evaluate and use biomedical information sources to obtain, organise, interpret and communicate science and health information.
- Correctly use databases and bibliographic, encyclopaedic and lexicographical reference works in the health sciences.
- Produce papers on science and technology communication that include a humanistic perspective.
- Analizar críticamente noticias científicas aparecidas reciente-mente en los medios de comunicación.
- Produce papers as part of a group.

## OBJECTIVES

One of the major problems of modern society is that scientific and technological production is increasing exponentially and, nonetheless, people are more and more removed from knowledge of these advances because we do not have the ability to take them in with the speed with which they occur. One way to reduce this difference is to publish this information in the media. That is precisely why the aim of this course is to provide students with the basic tools necessary to handle scientific and technological news. The programme not only includes aspects of journalistic writing, but it also aims to place the subject within a context of science, technology and society.

A relevant part of the course will address the relationship between science, technology, media and public opinion. The aim is for the student to understand that behind social changes there is always a technological and scientific change.

## DESCRIPTION OF CONTENTS: PROGRAMME

- Topic I: Science as an object of communication
- Topic II: Science and the public sphere.
- Topic III: Sources in science communication
- Topic IV: Scientific journals and their media effect.
- Topic V: Snow's "two cultures" and their effect on science communication.
- Topic VI: Science in the mainstream media culture.
- Topic VII: Media genres applied to public communication of science and technology.
- Topic VIII: Science and journalism as tools against fake news.
- Topic IX: Science and technology communication as a profession.
- Topic X: Scientific communication as an object of research

## LEARNING ACTIVITIES AND METHODOLOGY

Students must write scientific news using all the journalistic genres: report, interview, chronicle, bibliographic summary, news, etc. There will also be comparative analysis of the science sections of different newspapers.

## SEMINAR:

The students must follow seminars on scientific topics which tend to be newsworthy and which generally correspond to the book "Science through Journalism", mentioned in the bibliography. These transversal topics that might be included, among others:

- Space and the Solar System. Concepts. The International Space Station and the missions to Mars.
- The Earth: its formation and the tectonic plates. Volcanism and earthquakes
- Life: concepts on the appearance of life on Earth, embryonic stem cells. Cloning.
- Ecology and environment. The greenhouse effect, disappearance of the ozone layer and climate change.
- Diet: Food crises. "Mad Cow" Disease, information about rapeseed oil, etc.
- Matter and energy: Nuclear fusion and fission. The ITER project. Oil: information about oil spills.
- Scientific policy. National R+D plans, Spanish research in the CSIC and universities. Brief introduction to the history of Spanish science.
- Pandemics and health crises.

#### ASSESSMENT SYSTEM

Students must attend 80% of the practice and deliver them on time. The practice mark will count 40% of the final grade as long as the theoretical part is approved, which will count the remaining 60%.

The evaluation of the practice will be carried out through the continuous evaluation process in which the students will follow various activities guided by the lecturer. The evaluation of the theoretical content will be carried out through an exam

<b>% end-of-term-examination:</b>	50
<b>% of continuous assessment (assignments, laboratory, practicals...):</b>	50

#### BASIC BIBLIOGRAPHY

- BAUER, MARTIN Y BUCCHI, MASSIMIANO (eds) Journalism, Science and Society, Routledge, 1997
- BUCCHI, MASSIMIANO Y BRIAN TRENCH (eds.). Handbook of Science Communication, Routledge. London & New York., 2008
- ELÍAS, CARLOS Science on the Ropes. Decline of Scientific Culture in the era of Fak News, Springer-Nature, 2019
- GREGORY, JANE y MILLER, STEVE Science in public. Communication, Culture and credibility, Basic Book. London, 1998
- WEINGART, PETER and HUPPAUF, BERND Science Images and Popular Images of the Sciences, Routledge, 2007

#### ADDITIONAL BIBLIOGRAPHY

- BUCCHI, MASSIMIANO. Beyond Technocracy. Citizens, Politics, Technoscience, , Springer, New York , 2009
- JASSANOFF, SHEILA. The fifth Branch: Science advisers as policy makers. , Harvard University Press, 1990
- KALANTZIS-COPE, PHILLIPS Y GHERAB-MARTIN, KARIM Emerging digital spaces in contemporary society. Properties of technology, Pgrave macmillan. New York, 2011

#### BASIC ELECTRONIC RESOURCES

- . Cátedra Jean Monnet Chair "EU, Disinformation & Fake News": <a href="https://www.uc3m.es/investigacion/catedras-investigacion/jean-monnet-chair-eu-disinformation-fake-news" target="\_blank">https://www.uc3m.es/investigacion/catedras-investigacion/jean-monnet-chair-eu-disinformation-fake-news</a>
- . Racionalidad y contraconocimiento. Epistemología de la detección de falsedades en relatos informativos: <a href="http://portal.uned.es/portal/page?\_pageid=93,70585545&\_dad=portal&\_schema=PORTAL" target="\_blank">http://portal.uned.es/portal/page?\_pageid=93,70585545&\_dad=portal&\_schema=PORTAL</a>
- EUREKALERT . web de la AAAS: <http://www.eurekalert.org/>
- NASA . web de la NASA: <http://www.nasa.gov/>
- Nature . Web de Nature: <http://www.nature.com/>
- World Health Organization . Risk communication resources: [https://www.who.int/ihr/publications/risk\\_communications/en/](https://www.who.int/ihr/publications/risk_communications/en/)