

Descrição das unidades curriculares (Ficha de disciplina)

1. Unidade curricular: Ciência, Cultura e Sociedade (*Science, Culture and Society*)

2. Código da unidade curricular: SCS

3. Faculdade: Instituto de Tecnologia Química e Biológica

4. Departamento:

5. Curso: PhD in Chemical and Biological Sciences and Engineering

6. Nível do curso : PhD

7. Tipo de unidade curricular : Mandatory

8. Ano do plano de estudos: All

9. Semestre: All

10. Número de créditos: 3 ECTS

11. Docente responsável: Ana Sanchez / Lígia O. Martins

12. Número de horas de aula por semana: 60 hours of contact in total

13. Objectivos da unidade curricular:

This unit has the following objectives:

i) Foster the ability of students to communicate scientific issues in different formats and to different types of audience, ii) Encourage students to look at science from different perspectives by getting acquainted with disciplines such as philosophy of science, history of science and sociology of science, and promote new and critical perspectives on the role of science within society, iii) Reflect on the ethics of science and technology, including the importance of a responsible conduct in research and laboratory safety issues and, iv) Present career options to students when completing their PhD creating opportunities for networking.

14. Requisitos de frequência

Not applicable.

15. Conteúdo da unidade curricular

The Science, Culture and Society curricular unit includes i) classes concentrated in a module for the 1st year students, ii) a scientific writing workshop for the 2nd or 3rd year students and iii) a annual meeting with poster and oral communications by 2nd and 4th year students. PhD students are further encouraged to participate in the institute's outreach activities.

The classes' module includes sessions on Bioethics, Science Communication, Sociology of Science, Biosafety, and Responsible Conduct in Research. Students are challenged to look beyond chemistry and the life sciences and to think about the relation of research with other

areas and the scientists' responsibility towards society. Discussion of case studies and practical exercises will complement the presentations by invited speakers.

The scientific writing workshop will take place in the 2nd or 3rd year of the PhD where students are expected to have some grasp of the main challenges of scientific writing.

The PhD Students' meeting is organized by a committee of PhD students supported by the SCS coordinators and ITQB administrative services. This represents a valuable opportunity to get acquainted with the challenges of organizing scientific meetings. During the meeting, students in their 2nd year will make a poster presentation and students in the 4th year will make an oral presentation. Presentations will be evaluated by ITQB researchers, who will provide feedback to the students to help them improve their presentations skills in the future.

16. Bibliografia recomendada

Alley, Michael (1996) **The craft of scientific writing**. Springer
Beveridge, William I.B. (2004) **The Art of Scientific Investigation**. Blackburn Press
Forge, John (2008) **The Responsible Scientist**. University of Pittsburgh Press
Goldacre, Ben (2009) **Bad Science**. Harper Perennial (*Edição Portuguesa: Ed. Bizâncio*)
Murphy, Raymond (2005) **English Grammar in Use**. Cambridge University Press
Okasha, Samir (2002) **Philosophy of Science: A Very Short Introduction**. Oxford University Press
Pigliucci, Massimo (2010) **Nonsense on Stilts: How to Tell Science from Bunk**. Chicago University Press.

17. Métodos de ensino

This module includes workshops, seminars, written exercises, practical sessions, round tables, discussions and informal gatherings throughout the four years of training.

18. Métodos de avaliação

The evaluation of the SCS curricular unit will be based in a continuous evaluation (40%) based on the participation in the proposed activities (including discussions, roundtables, presentations, etc.), poster (20%) and oral presentation (20%) at the ITQB's student meeting, and quality of a written summary of the PhD thesis in lay terms (20%). This summary should be submitted together with the request for the PhD thesis public discussion.

19. Língua de ensino

English