



Universitat de Lleida

DEGREE CURRICULUM
**SCIENCE COMMUNICATION,
MANAGEMENT AND
INNOVATION**

Coordination: Judit Herreros

Academic year 2014-15

Subject's general information

Subject name	SCIENCE COMMUNICATION, MANAGEMENT AND INNOVATION
Code	14701
Semester	S1
ECTS credits	4
Theoretical credits	2
Practical credits	2
Coordination	Judit Herreros
Department	Ciències Mèdiques Bàsiques
Modality	Presencial
Important information on data processing	Consult this link for more information.
Language	English
Degree	Master
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Judit Herreros
Joan Fibla

Learning objectives

Learning:

After the course, students should know about:

1. Science communication.
2. Science management.
3. Career planning.
4. Basic concepts on transfer of technology

Capacities:

After the course, students should be able to:

1. Write scientific papers.
2. Use bibliographic software and to find out the relevant bibliometric parameters of a publication.
3. Prepare scientific presentations for different audiences.
4. Prepare grants for submission.
5. Choose appropriate research subjects.
6. Plan a scientific career.
7. Write a CV
8. Develop abilities for team working
9. Protect the intellectual property and apply for a patent

Competences

CB2 To be able to apply the acquired knowledge and have the ability to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to the field of study

CB3 To be able to integrate knowledge and handle the complexity of formulating judgments based on information that, being incomplete or limited, includes thoughts on social and ethical responsibilities supported their own judgments

CB4 To be able to communicate conclusions, and the knowledge and rationale behind them, to specialist and non-specialist audiences in a clear and unambiguous terminology

CB5 To possess learning skills that enable them to continue studying in a way that will be largely self-directed or autonomous

CG2 To know how to plan and execute a research project, following the scientific method and the appropriate technology with a high degree of initiative and commitment.

CG3 Capacity for teamwork, leadership and decision making.

CG4 Capacity for critical and creative thinking with their own work and that of other researchers

CG5 Ability to obtain, process and interpret the experimental results in a rigorous manner and applying the appropriate technologies.

CG7 To be able to present scientific papers and scientific articles that may be considered for publication in international journals

CE2 To value the importance of protecting intellectual property and knowledge transfer to industry and to have a

basic knowledge on how to carry it out.

CT1 To have a correct oral and written expression

CT2 To master a foreign language

CT3 Mastering ICT

CT4 To respect the fundamental rights of equality between men and women, to the promotion of human rights and the values ??of a culture of peace and democratic values

Subject contents

1. **Learning how to write scientific papers (7 h)**
 - Organizing and presenting scientific knowledge in written form.
 - Managing bibliographic software
2. **Learning how to prepare scientific presentations for different audiences (12 h)**
 - Organizing and presenting scientific knowledge in multimedia presentation form.
3. **Learning Grantsmanship: how to prepare grants for submission (4 h)**
 - Scientific hypothesis making and presentation.
 - What do funding institutions look for in a proposal.
4. **Choosing Research Subjects (5 h)**
 - Research Seminar Sessions on a variety of topics in the biomedical and biotechnological sciences.
5. **Planning a Scientific Career (10 h)**
 - Strategic plan making and contingency preparations.
 - Team working
 - Working in a company
6. **Valorization process (2 h)**
 - How to protect the intellectual property . Obtaining a patent.
 - Technology transfer. Spin offs.

Methodology

master classes, scientific conferences, debates conducted on seminars, group work, individual written work (writing a scientific paper, preparing a project / grant application, review and complete a scientific CV), oral presentation in English.

Development plan

Learning how to write scientific papers (7h)

1. What is a paper and how do you organize it? (2h seminar)
2. Writing the paper (1h seminar)
3. Learning how to use bibliographic software(s) (2h seminar)
4. Case studies/reviewing a paper (1h seminar)
5. *Invited speaker*: journal editor

Learning how to prepare scientific presentations for different audiences (12h):

1. What is a presentation and how do you organize it? Know your audience (2h Seminar).
2. Do it yourself-presentations (6h practice)
3. Releasing your results to the media (2h). Writing a press note (1h seminar; Dr. Joan Fibla)

4. *Invited speaker*: science propagation (1h seminar)

How to prepare grants for submission (4h):

1. Looking for funding sources. What is a call for proposals and how do you respond to it? (2h Seminar)
2. Preparing and writing the grant. (1h Seminar)
3. Case studies. (a seminar of 1h)

How to choose a research subject and answer a scientific question (5h):

1. Research Seminars. (five 1h Seminars)

Planning a Scientific Career. (10h) :

1. Can you plan a scientific career? Career in Academia (2h Seminar)
2. Understanding what is the impact factor of a journal. Finding out the bibliometric parameters of my publications (2h seminar)
3. How to write a CV: academia vs. industry (1h)
4. Abilities for working in a team. Interpersonal communication in the lab and leadership (3h seminar): *Invited speaker*.
5. Working in a company: *invited speaker* (2h)

Valorization process (2h)

1. How to protect the intellectual property. How to patent
2. Technology transfer and spin off. *Invited speaker*

Evaluation

One evaluation activity in the practice sessions (paper presentation): 25%

Three homework assignments (writing a paper; applying for a fellowship; writing a CV): 55%

Assistance to scientific conferences and active participation: 20%

Bibliography

Communicating Science: Professional, Popular, Literary (2009) N. Russel. Cambridge University Press.

Proposal Writing: Effective Grantsmanship (2007) S. M. Coley & C. A. Scheinberg, Sage Publications, Inc.

Lab Dynamics: Management Skills for Scientists (2006).C. M. Cohen & S. L. Cohen. CSHL Press.

At The Helm: A Laboratory Navigator (2002). K. Baker. CSHL Press.

Planning a Scientific Career in Industry: Strategies for Graduates and Academics (2010) S. Mohanti & R. Gosh. Wiley

Careers in Science and Engineering: A Student Planning Guide to Grad School and Beyond. (1996) NAS, NIH & NAE. National Academies Press

Goleman, Daniel; Boyatzis, Richard; McKee, Annie. El líder resonante crea más, el poder de la inteligencia emocional (2002). Plaza & Janés.

Ginebra, Gabriel. Gestión de incompetentes, un enfoque innovador de la gestión de personas. Libros de cabecera (2010), Barcelona.