

Information literacy for chemists

Alain Borel
Vincenzo Palatella
Miriam Petrilli

Oct.-Nov. 2025

- Course goals
- Course plan
- Course assessment

General introduction

Course goals

Information literacy is a set of abilities requiring individuals “[...] *to recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information*”

- 1) Recognize when information is needed
- 2) Locate relevant information
- 3) Evaluate this information
- 4) Use the newly discovered information

Information literacy

1) Recognize when information is needed

Do not re-invent the wheel!

Newton's letter to Hooke: "If I have seen further it is by standing on ye shoulders of Giants." (Isaac Newton, 1642-1727)

Westheimer's Discovery: "A couple of months in the laboratory can frequently save a couple of hours in the library" (Frank H. Westheimer, 1912-2007)

2) Locate information

How to search for information: where to look? How to search? Why does it work that way? What's under the hood?

3) Evaluate information

Understand the information you found and its value

4) Use information

What to do next

=> The course focuses on items (2) and (4)

=> The course does not focus on Scientific Writing (ENG-613) or Research Data (ChE-601, ChE-609(4))

Course plan

Day 1 – Nov. 1st

Theoretical bases: scientific information as a network, elementary information retrieval

Overview of information sources & tools: articles, books, patents, reports, theses, databases, search engines, AI...

Tools for text- and structure-based searching: Web of Science, Google Scholar, Scopus, OpenAlex, Scifinder, Reaxys, CSD, ICSD, Pubchem, AI...

Design of search strategies for your own PhD project

Day 2 – Nov. 8

The evolving market of scientific information: Open Access, publishing agreements, institutional policies

Intellectual property law basics: copyright laws, patents, licences.

Smart publishing. Visibility and impact. Publishing contracts.

Science on social networks

MonOApoly : gaming Open Access

Day 3 – Nov. 15

Copyright & other regulations for PhD theses

Best practices of citation

Data and metadata publishing: supplementary information for the 21st century

Design of search strategies for your PhD project

Course assessment

Personal report (4-6 pages) including :

- short description of your PhD project
- design of relevant search strategies : sources, tools, queries
- discussion of the first results
- discussion of your (or your supervisor's) publication strategy (Open Access requirements and constraints)

Deadline : Friday, Nov. 28, 23:59, Lausanne time

EPFL Day plan

