

Recommended books for M2 refresher course

Depending on your background, we recommend a number of books or links (in French or English) to help you prepare:

Depending on your original training, different books or links (in French or English) are recommended to prepare you:

The R language is a powerful and crucial tool for research, particularly for statistics and data analysis. It's essential to learn R for your Master's degree, and a number of polys are available online for this purpose.

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- French basic manual: <http://www.biostat.fr/docs/hyperindex.pdf>
- begin'R, R and statistics: <http://beginr.u-bordeaux.fr/index.html#sommaire>

Statistics: M. J. CRAWLEY, Statistics: an introduction using R

- swirl, learn R **interactively**: <https://swirlstats.com/students.html>
- coding club: <https://ourcodingclub.github.io/2016/11/13/intro-to-r.html#vector>

Advanced: R, RStudio, Rmarkdown

- R, Studio, Rmarkdown: <https://ismayc.github.io/rbasics-book/index.html>
- R and data analysis: https://lgatto.github.io/2017_11_09_Rcourse_Jena/index.html
- R (in French): <http://lyoncalcul.univ-lyon1.fr/events/2018/index.html>

Unix basics

- <http://www.dsimb.inserm.fr/~fuchs/M2ISDD/>
- First chapter of the "Introduction to Shell for Data Science" course on DataCamp: <https://www.datacamp.com/courses/introduction-to-shell-for-data-science>

Introduction to Python programming

- Python courses on the net, in French: <https://python.sdv.univ-paris-diderot.fr/> and <http://www.dsimb.inserm.fr/~fuchs/python/index.html>
+ Book : <https://www.dunod.com/sciences-techniques/programmation-en-python-pour-sciences-vie>
- Gérard Swinnen "Apprendre à programmer avec Python" Editions O'Reilly, 3rd edition, February 2009.

(see also <http://inforef.be/swi/python.htm>)

- Introducing Python by Bill Lubanovic at O'Reilly

[https://github.com/ab-anand/py-books/blob/master/Introducing%20Python%20-%20Modern%20Computing%20in%20Simple%20Packages%20\(2014\).pdf](https://github.com/ab-anand/py-books/blob/master/Introducing%20Python%20-%20Modern%20Computing%20in%20Simple%20Packages%20(2014).pdf)

Fundamentals of molecular biology and protein structure

Introduction to Protein Structure - Carl Branden (Author), John Tooze (Author)
Garland Science

- Proteins: Structures and Molecular Properties - Thomas E. Creighton - Ed Freeman
- Molecular modeling: A. LEACH, Molecular Modelling: Principles and Applications, second edition
- Molecular biology and medicine - Jean-Claude Kaplan, Marc Delpech - Publisher Médecine-Sciences Flammarion

Chemoinformatics book

- An Introduction to Chemoinformatics, A. R. Leach and V. J. Gillet, Springer

Biostatistics reminder: see M1 polys

- Statistics: M. J. CRAWLEY, Statistics: an introduction using R
- Statistics and Chemometrics for Analytical Chemistry, J. N. Miller and J. C. Miller, Pearson Prentice Hall

Chemistry refresher courses

- In French, Paul Arnaud's works are a must:
 - Chimie Organique 18th edition, P. Arnaud, Dunod, 2009
 - Chimie Physique 6th edition, P. Arnaud, Dunod,
- General Chemistry, MacQuerrie
- Chemical Principles 3rd edition, P. Atkins & L. Jones, W.H. Freeman & Co Ltd, 2010.

Medicinal chemistry book

- Medicinal Chemistry - Principles and Practice 2nd edition, F. D. King, Royal Society of Chemistry, 2003

Book for *in silico* Drug Design

- Molecular Design - Concepts and Applications, G. Schneider and H.-H. Baringhaus, Wiley-VCH, Weinheim, New York, 2008

For new M2 entrants, specially adapted polys in R, Pymol and Python, biostatistics can be requested from the course leaders.

