Course for Ph.D. students
XLI Cycle (1 Nov 2025 – 31 Oct 2028)

Curriculum
INNOVAZIONE NEL CAMPO DELLE SCIENZE FARMACEUTICHE

MULTIVARIATE ANALYSIS WITH R
(2 ECTS)

Prof. Laura Scalvini
University of Parma

Course language: **English**

Approximative scheduling: January 29th and 30th 2026; 9:30-13:00/14:30-17:30
The exact date and time will be announced by e-mail and on the website in the page "Active courses" for each session.

To attend the course please contact:
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Course description
The course provides basic knowledge on multivariate analysis applied to medicinal chemistry and pharmaceutical analysis. Different chemometrics techniques are introduced and discussed, including principal component analysis (PCA) and partial least squares analysis (PLS). The students are trained on the use of the open-source program R for the treatment and analysis of data. Basic elements of statistics are a prerequisite. The course includes lessons and exercises in the computer laboratory, for a total of **12 hours** in **two days**. Slides and tutorials will be provided by the teacher. Manuals are available online. Additional readings: "Chemometrics with R - Multivariate Data Analysis in the Natural Sciences and Life Sciences" R. Wherens, 2011, Springer-Verlag Berlin Heidelberg.
The course is limited to 20 students

Evaluation: At the end of the course the students have to complete exercises similar to the case studies examined during the lessons.