Coursework
I semester 2021-2022

PhD Course in Geosciences – Università di Padova

SCHEDULE

Coursework
I semester 2021-2022

PhD Course in Geosciences

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1	2	3	4	5	6	7
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
8	9	10	11	12	13	14
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
15	16	17	18	19	20	21
		MANCINI - X-ray imaging Room Arduino	MANCINI - X-ray imaging Room 2O	MANCINI - X-ray imaging zoom (or Room 2I)		
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
22	23	24	25	26	27	28
LEARDI - multivariate a 11.30-17.00 - Room 2H	LEARDI - multivariate a 9.00-17.00 - Room 2L + Arduino	LEARDI - multivariate a 9.00-17.00 Room 2L + Lab Paleo + Arduino	LEARDI - multivariate analysis 9.00-13.00 - Lab Paleo+ Room 2H			
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
29	30	DECEMBER 1	2	3	4	5
FURLANI - ABC 9.00-12.00 - Lab Pal III floor		FURLANI - ABC 9.00-12.00 - zoom	MANCINI - X-ray imaging Room 2I	MANCINI - X-ray imaging Room 2I		
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
6	7	8	9	10	11	12
MANCINI - X-ray imaging zoom (or Room 2O)						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
13	14	15	16	17	18	19
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
20	21	22	23	24	25	26

MANDATORY

Prof. Riccardo Leardi

(Università di Genova)

Chemometrics: Multivariate analysis

75% ATTENDANCE MINIMUM

Chemometrics: Multivariate Analysis

This is to inform you that the course "Chemometrics: multivariate analysis" taught by Prof. Riccardo Leardi (Univ. of Genova) will be held on from November 22th to November 25th, 2021.

Classes will be delivered in person. This course is 25-30 hours in total (5 CFU). For details on the schedule see page 2, where you can find the final schedule.

I would remind that you have to attend at least 75% of the course. The course of "Chemometrics" is mandatory and consists of two parts (Multivariate Analysis and Experimental Design), each part is taught every other year. The second-year students (XXXVI series), who have attended the Experimental Design module last year, will attend the Multivariate Analysis module this year. The first-year students (XXXVII series) will attend the Multivariate Analysis module this year and the Experimental Design module next year.

"The hands-on sessions will be performed by using CAT, an R-based software freely downloadable from http://www.gruppochemiometria.it/index.php/software (the same software used in the module of Experimental Design held last year). The students are kindly invited to install it by following the procedure described in the file Instructions.txt and in the video https://www.youtube.com/watch?v=fPJsFJMobAI. The students of the second year can choose whether installing it again ex novo or just updating it (again, following the instructions). In case of a Mac computer, a Windows emulator is required."

If you need any further info, please contact us dottorato.geoscienze@unipd.it.

5CFU= 30 hours
Schedule = November 2021, see the general schedule in the second page

Schedule Chemometrics: Multivariate analysis

Monday November 22th

11.30-13.00   Room 2H

14.00-17.00   Room 2H

Tuesday November 23th

9.00-12.30   Room 2L

13.30-17.00   Room ARDUINO

Wednesday November 24th

9.00-12.30   Room 2L (9.00 - 10.30) - Room LAB. Paleo (10.30-12.30)

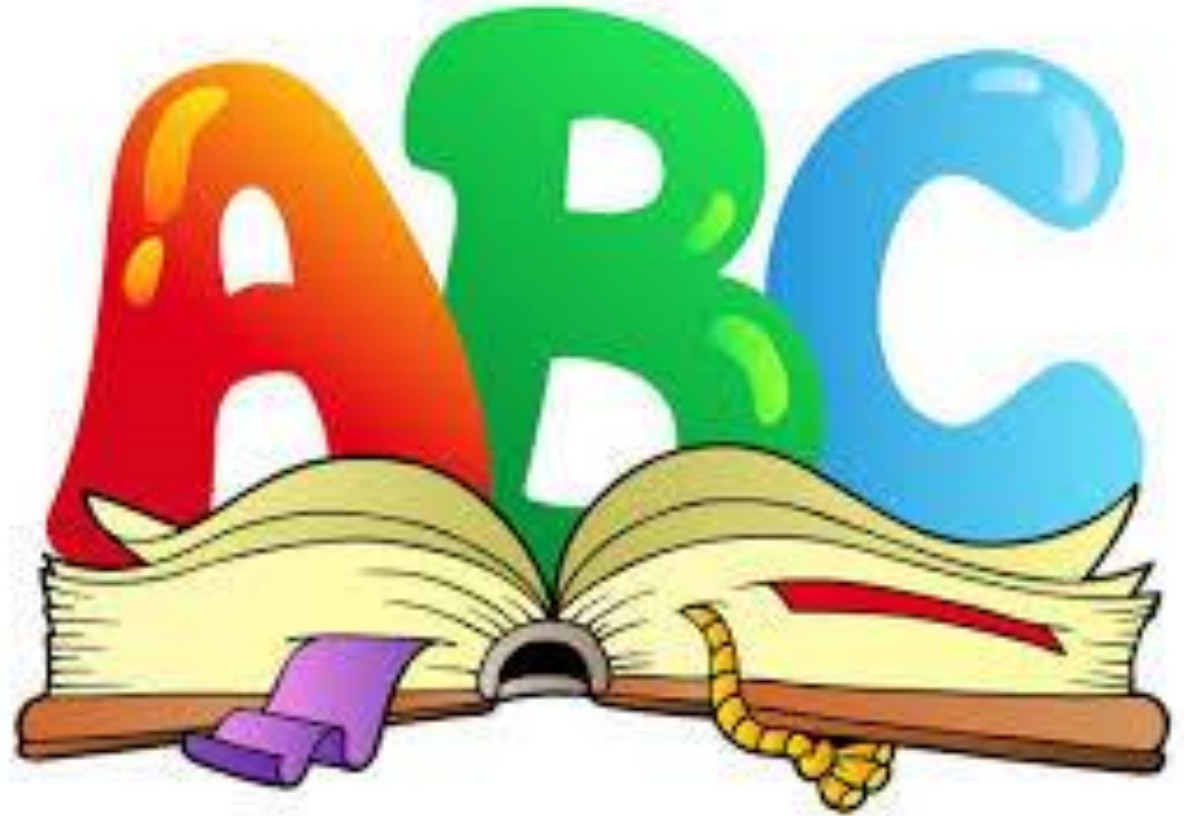13.30-17.00   Room LAB. Paleo

Thursday November 25th

9.00-13.00   Room Lab Paleo 8.30-11.30 - Room 2H 11.30-13.30

MANDATORY

Dr. C. Furlani (CAB Univ. Padova)

ABC - Bibliographic Research in Geosciences

75% ATTENDANCE MINIMUM

ABC - Bibliographic Research in Geosciences

The library offers a course to learn how to search, find and use bibliographic information for your thesis and research. It is compulsory for PhD students from XXXVI on and you have to attend to at least 75% of the course. At the end of the course, you will receive a certificate of participation. The course is subdivided in different activities and scheduled as follows:

-3 hours on-line course available on the e-learning platform (moodle)

-3 hours practical classes with the help of the librarians

-1.5 hours lab on tools for managing a bibliography

Before the classes, you need to complete the e-learning module (automatic checked by the system).

The Librarians are updating this module so please do not take this module until you will receive a message confirming that the module has been updated.

To do that please:

1-go to the Moodle platform of the Department of Geosciences (https://elearning.unipd.it/geoscienze/) and select   > Biblioteca
 ABC   della   ricerca bibliografica per le geoscienze

2-login with your Single Sign On (SSO) credentialshttps://elearning.unipd.it/geoscienze/

3-Class: **Monday November 29th 2021**, 8.30 am -11.30 am, Laboratorio didattico di Paleontologia (3rdfloor-teaching area).

4-Laboratory on reference managers: Wednesday **December 1st 2021**, 9.30 -11:00 am, virtual (zoom meeting)

Please, for class and laboratory activities bring your laptop with you and activate the proxy tool (i.e., Auth-Proxy), see information on how to do it here:
http://bibliotecadigitale.cab.unipd.it/en/auth-proxy.

If you don't have a laptop, please inform the library and they'll lend you one. If you need further info or you have experienced some issues, please refer to: Dr. Cecilia Furlani Biblioteca di Geoscienze Università degli Studi di Padova Via G. Gradenigo, 635131 Padova Tel: +39 049 8279102e-mail:
cecilia.furlani@unipd.ithttp://bibliotecageoscienze.cab.unipd.it/

P.S. If you have already attended this course, please ignore this message. If you are not able to attend it this year or you are enrolled from XXXIV series on, you must participate to this course before the end of your project.

WARMLY SUGGESTED

Dr. Lucia Mancini

(Elettra - Sincrotrone Trieste S.C.p.A.

Advanced X-ray imaging techniques:
application to Geosciences

75% ATTENDANCE MINIMUM

Advanced X-ray imaging techniques: application to Geosciences

Language: English
Duration: 18 h (3CFU)

Educational objectives:
Presenting the latest three-dimensional (3D) and 4D (dynamic) imaging techniques based on synchrotron light and advanced laboratory X-ray sources. The course is focused on applications to Geosciences and to the characterization and conservation of Cultural and Natural Heritage and will be divided into 3 modules.
At the end of the course, basic notions will be provided on the use of complementary investigations techniques based on X-rays and neutrons.

- 1st module (4h): Basic principles, X-ray sources and modern technologies for the formation of 2D and 3D images working with the *ex situ* and *in situ* modalities.
- 2nd module (4h + 3h of tutorial): The methods of reconstruction and visualization of 3D images. How to process and analyze images to extract quantitative information on the investigated materials and specific phenomena.
- 3rd module (5h + 1h of tutorial): Application to Geosciences, Cultural and Natural Heritage.

 Requirements:
None (possibly: Basic knowledge of X-ray physics and optical microscopy).

Schedule Advanced X-ray imaging techniques: application to Geosciences

Date	Room
Wednesday November 17th	
14:30-17:30	Room Arduino
Thursday November 18th	
09:00-12:00	Room 2O
Friday November 19th	
09:30-12:30 (zoom)	Zoom (o Room 2I)
Thursday December 2nd	
14:30-17:30	Room 2I
Friday December 3rd	
09:00-12:00	Room 2I
Monday December 6th	
09:30-12:30 (zoom)	Zoom (o Room 2)