
COURSE: Geochemistry

ACADEMIC YEAR: 2019-2020

TYPE OF EDUCATIONAL ACTIVITY:

TEACHER: Giovanni Mongelli

e-mail: Giovanni.mongelli@unibas.it

website:

phone: +39 0971 206181

mobile (optional):

Language: **Italian**

ECTS: **8** (6 of lesson and
2 of tutorials/practice)n. of hours: **72** (48 of lesson
and 24 of tutorials/practice)Campus: **Potenza**
Dept./School: **Dipartimento di
Scienze**
Program: **Geology (L34)**Semester: second
**02/03/2020 till
20/06/2020**

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

The main goal of this course is to provide the knowledge useful for studying the chemical composition of relevant terrestrial environments and, in addition, to face the mineralogy and petrography courses.

The principal topics include interaction and matter transfer among some of the most relevant geochemical spheres and representation, modelization and evaluation of chemical data.

- Knowledge and ability to understand: knowledge of the main geochemical process involving the interaction among different geochemical spheres (crust, surface water, atmosphere, etc);
 - Capability to apply knowledge and understanding: proficiency in addressing different compositional data in a proper way;
 - Understanding autonomy: growing autonomy in the comprehension of the different geochemical processes and their representation and modelization;
 - Communication skills: competence in the use of scientific language:
- Learning ability: continuous updating by consulting scientific literature and attending courses and seminars
-

PRE-REQUIREMENTSBasic knowledge of chemistry and mineralogy

SYLLABUS

- 1- Thermodynamics (4 hours).
 - 2- Cosmochemistry (2 hours)
 - 3- The Continental Crust (6 hours).
 - 4- Water-rock interaction (12 hours).
 - 5- Isotope Geochemistry (12 hours).
 - 6- Representation of chemical data (12 hours).
-

TEACHING METHODS

Teacher intended 48 hours to theoretical lessons and 24 hours to classroom and laboratory tutorials. Field trips are also planned. Field and laboratory activities are mandatory.

EVALUATION METHODS

At the end of the course a written verifications is planned. The verification test will consist of open-ended questions

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

- Textbook:
 - S.M. Richardson, H.Y. McSween Jr., Geochemistry, pathways and processes. Prentice Hall.
 - H.Rollinson, Using geochemical data– evaluation, presentation, interpretation. Longman.
 - D.G. Brookins, Eh-pH diagrams for Geochemistry. Springer-Verlag.
-

LECTURE NOTES AND LEARNING RESOURCES PROVIDED BY THE TEACHER DURING THE COURSE

INTERACTION WITH STUDENTS

The teacher will receive students in his office (on the second floor of the building 3D) on Wednesdays from 10:00 to 12:00 and Thursday from 14:00 to 16:00. The appointment must be agreed by email (giovanni.mongelli@unibas.it).

EXAMINATION SESSIONS (FORECAST)¹

22/01/2020; 25/03/2020; 20/05/2020; 24/06/2020; 15/07/2020; 21/10/2020; 16/12/2020.

SEMINARS BY EXTERNAL EXPERTS YES X NO

FURTHER INFORMATION

¹Subject to possible changes: check the web site of the Teacher or the Department/School for updates.