

Curriculum and qualification consistency

Through the Quality Assurance Policy, adopted in 2025, UBB aims to make study programs dynamic and flexible, and encourages multi-, inter- and transdisciplinary approaches.

The expected learning outcomes are correlated with the skills required by the corresponding occupations, in line with national and European policies.

The competences acquired after passing the doctoral studies in the field of Geology are those related to the level 8 qualification of the EQF/CEC and the CNC. This ensures the formation of professional competences (content, cognitive and research) in the field of Geology, as well as transversal competences (Table 1). Graduates of doctoral studies in Geology will acquire the ability to understand and address complex geological problems, with applicability in all fields of life and natural sciences.

The competences are regulated by Order (ME) no. 3020/2024 with reference to the Framework Regulation on doctoral studies (art. 7(9) and 10).

The expected learning outcomes specific to the study programme being assessed (Table 2) are correlated with the competences required by the corresponding occupations, according to occupational standards and the European Occupational Classification (ESCO).

Table 1. Competences specific to the doctoral study program

Professional skills	
Competence Code	Competence
CP1	Advanced knowledge in the field of Geology
CP2	Ability to identify, formulate and creatively solve research problems
CP3	Mastering the methods and techniques of advanced research in Geology
CP4	Mastering new processes and solutions in research
CP5	Skills in documenting and capitalizing on scientific papers
CP6	Ability to write scientific papers and academic materials at an advanced level
CP7	Ability to process and process data at an advanced level
CP8	Academic language skills in international languages
CP9	Understanding and applying the principles of research ethics
Transversal competences	
Competence Code	Competence
CT1	Written and oral communication skills in science
CT2	Advanced language skills in international languages
CT3	Advanced digital skills and competences
CT4	Inter-relational and teamwork skills
CT5	Knowledge of risk, crisis and failure management
CT6	Knowledge of critical thinking and reasoning analysis

Table 2. Learning outcomes at the level of the doctoral study program

Comp etence Code	Knowledge	Skills	Responsibility and autonomy
CP1	1. Know the concepts, theories and advanced models in the field. 2. Identify the frontier literature in the field.	1. Apply knowledge to the analysis of complex problems. 2. Integrates theoretical and practical concepts for innovative solutions.	1. Works autonomously in investigating and expanding knowledge. 2. Takes responsibility for the validity of the conclusions.
CP2	1. Knows methods and techniques for identifying and formulating problems. 2. Understand the criteria of relevance and originality of scientific problems.	1. Formulate original problems and propose creative solutions. 2. Apply innovative methods to solve the identified problems.	1. Takes responsibility for the quality and impact of solutions. 2. Works autonomously in defining research directions.
CP3	1. Know the methods and techniques of advanced, theoretical and experimental research. 2. Understand the scientific methodology applied to his/her field.	1. Design and apply sophisticated methods for investigating problems. 2. Uses data processing and interpretation techniques.	1. Makes autonomous decisions on the choice and adaptation of methods. 2. Assumes responsibility for the correctness of the procedures applied.
CP4	1. Know emerging techniques and solutions in research. 2. Understand the advantages and limitations of innovative processes.	1. Apply new methods and solutions to complex problems. 2. Integrate innovative methods into projects and experiments.	1. Takes responsibility for decisions related to the application of new solutions. 2. Work autonomously for testing and validating them.
CP5	1. Know the standards of scientific documentation. 2. Understand the methods of capitalizing on research results.	1. Documents and synthesizes relevant scientific information. 2. Capitalize on the papers through articles, conferences and academic channels.	1. Takes responsibility for the accuracy of the information. 2. Work autonomously in the selection and presentation of materials.
CP6	1. Know the structure and rigors of international academic writing. 2. Understand the rules of citation and presentation.	1. Write articles, reports, and presentations clearly. 2. Adapt the style to the requirements of international journals and conferences.	1. Takes responsibility for the originality and quality of the works. 2. Work autonomously in the development and revision of academic materials.
CP7	1. Know statistical methods and algorithms for data analysis. 2. Understand the functionality of software dedicated to the field.	1. Process and interpret complex data with advanced tools. 2. Produce relevant analytical visualizations and reports.	1. Ensures the accuracy of the processed data. 2. Works autonomously in the selection of data processing methodologies.
CP8	1. Know academic terminology in international languages. 2. Understands complex scientific documents in foreign languages.	1. Writes and presents international scientific papers. 2. Participate in international discussions and collaborations.	1. Takes responsibility for the clarity of communication. 2. Work autonomously in the use of languages for documentation and dissemination.
CP9	1. Know the codes and regulations of ethics in research. 2. Understand the ethical implications of the methodology and results.	1. Applies ethical principles at all stages of research. 2. Assess ethical risks and propose solutions for compliance.	1. Assumes responsibility for the observance of ethical principles. 2. Work autonomously for the prevention and management of ethical issues.
CT1	1. Know the rules of oral and written scientific communication. 2. Understand the structure of scientific presentations and articles.	1. Writes and presents coherent scientific information. 2. Adjust communication according to the audience.	1. Takes responsibility for the clarity and accuracy of communication. 2. Work autonomously in the preparation of materials.
CT2	1. Know international academic terminology. 2. Understands complex scientific documents in foreign languages.	1. Drafts and formulates complex ideas in international contexts. 2. Participate in multicultural collaborations.	1. Work independently in international academic communication. 2. Takes responsibility for the accuracy of the message conveyed.

CT3	1. Know digital tools and advanced AI applications. 2. Understand the digital transformation processes in their field.	1. Use digital tools and AI for analysis and modeling. 2. Integrate digital solutions into the research activity.	1. Work autonomously in the application of digital technologies. 2. Assumes responsibility for the correctness and security of the data.
CT4	1. Knows the principles of collaboration and interrelationship in teams. 2. Understand the dynamics of interdisciplinary groups.	1. Works effectively in multidisciplinary research teams. 2. Collaborate constructively and communicate ideas in a group.	1. Takes responsibility for their own contribution. 2. Works autonomously in coordinating tasks and meeting deadlines.
CT5	1. Know the principles of risk and crisis management. 2. Understand methods of preventing and managing failure.	1. Assesses risks in research projects and activities. 2. Apply preventive and corrective methods.	1. Takes responsibility for risk decisions. 2. Work autonomously in planning crisis scenarios.
CT6	1. Know the concepts of critical thinking and logical reasoning. 2. Understand methods of data analysis and interpretation.	1. Analyze and interpret complex problems. 2. Formulate logical and reasoned reasoning.	1. Works autonomously in the critical evaluation of the results. 2. Assumes responsibility for reasoning decisions.