Academic course description – professional software

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| master’s DEGREE**Environmental geochemistry** 1st YEAR OF STUDY, 1st SEMESTER |

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| **Course title** | | **Professional software** |
| Course code | | 31020030010PM1211204 |
| Course type | | full attendance |
| Course level | | 2nd cycle (master’s degree) |
| Year of study, semester | | 1st year of study, 1st semester |
| Number of ECTS credits | | 6 |
| Number of hours per week | | 3 (0 lecture hours + 3 seminar hours) |
| Name of lecture holder | | Assistant Professor Andrei Ionuţ Apopei |
| Name of seminar holder | | Assistant Professor Andrei Ionuţ Apopei |
| Prerequisites | | Geoinformatics |
| A | **General and course-specific competences** | |
|  | **General competences**:   * Effectively using additional scholarly sources and assisted learning resources in order to devise a research paper using specialized software   **Course-specific competences**:   * Using knowledge of Geoinformatics in order to present and interpret geological processes, in concrete situations or as part of projects, programs or activities aimed at analyzing and interpreting natural phenomena * Properly using specific software for the quantitative and qualitative analysis of minerals, rocks, soil and water | |
| B | **Learning outcomes** | |
|  | Upon successfully completing the discipline, students become capable of using software such as Petrel, GIS, EndNote or Origin for various field-related projects | |
| C | **Lecture content** | |
|  | |  |  |  |  | | --- | --- | --- | --- | | Week | Title of lecture | Teaching methods | Duration | | - |  |  |  | | |
| D | **Recommended reading for lectures** | |
|  | ***-*** | |
| E | **Seminar content** | |
|  | |  |  |  |  | | --- | --- | --- | --- | | Week | Title of seminar | Teaching methods | Duration | | 1. | Managing bibliographical references | Application in the geoinformatics laboratory | 3 hours | | 2. | Devising and managing bibliographies (EndNote) | Application in the geoinformatics laboratory | 3 hours | | 3. | Graphical representations:  - data management  Various types of specific graphs and diagrams | Application in the geoinformatics laboratory | 3 hours | | 4. | The graphical interface and main functions of Petrel | Application in the geoinformatics laboratory | 3 hours | | 5. | Petrel: Exercises on the interpretation of seismic data, simple surfaces and networks, geometric modelling (volume), displaying results and data by means of graphs, the representation of elements of tectonics | Application in the geoinformatics laboratory | 12 hours | | 6. | Introductory notions of Topography | Application in the geoinformatics laboratory | 3 hours | | 7. | Basic notions of GIS (Geographic Information Systems):   * Georeferencing maps * Digitizing thematic maps   Managing the information from tables of attributes | Application in the geoinformatics laboratory | 12 hours | | 8. | Geographic Information Systems and their role in geological applications; examples of projects; steps in the creation of a GIS database | Application in the geoinformatics laboratory | 3 hours | | |
| F | **Recommended reading for seminars** | |
|  | - Complete EndNote User Guide (http://endnote.com/training)  - Origin 8.6 Getting Started Booklet  - Ormsby T., Napoleon E. J., Burke R., Groessl C., Bowden L. (2010) Getting to Know ArcGIS Desktop | |
| G | **Education style** | |
| learning and teaching methods | | Application in the geoinformatics laboratory |
| assessment methods | | Oral exam (50%) and continuous assessment (50%) |
| Language of instruction | | English |