

**AGH**AGH UNIVERSITY OF SCIENCE
AND TECHNOLOGY

Module name: **Prospecting**

Academic year: **2015/2016** Code: **BGG-2-204-EG-s** ECTS credits: **4**

Faculty of: **Geology, Geophysics and Environmental Protection**

Field of study: **Mining and Geology** Specialty: **Economic Geology**

Study level: **Second-cycle studies** Form and type of study: **Full-time studies**

Lecture language: **English** Profile of education: **Academic (A)** Semester: **2**

Course homepage: **—**

Responsible teacher: **mgr inż. Zygo Władysław (wzygo@geol.agh.edu.pl)**

Academic teachers: **prof. dr hab. inż. Piestrzyński Adam (piestrz@geol.agh.edu.pl)**
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Description of learning outcomes for module

| MLO code | Student after module completion has the knowledge/ knows how to/is able to | Connections with FLO | Method of learning outcomes verification (form of completion) |
|------------------|--|----------------------|---|
| Skills | | | |
| M_U001 | Student is able to gain geological information from various data bases and other sources, interpretate and draw conclusions. | GG2A_U01 | Project |
| M_U002 | Student is able to plan geological works and prepare an exploration program. | GG2A_U07 | Examination, Project |
| M_U003 | Student is able to make a preliminary economic estimation of mining and geology project. | GG2A_U11 | Project |
| Knowledge | | | |
| M_W001 | Student have a knowledge on principles and methodology of conducting geology works. | GG2A_W04 | Examination, Project |
| M_W002 | Student have a knowledge on prospecting geology. | GG2A_W06 | Examination, Project |

FLO matrix in relation to forms of classes

| MLO code | Student after module completion has the knowledge/ knows how to/is able to | Form of classes | | | | | | | | | | |
|-----------|--|-----------------|--------------------|--------------------|-----------------|----------------------|-----------------|-------------------|-------------------|-----------|--------|------------|
| | | Lectures | Auditorium classes | Laboratory classes | Project classes | Conversation seminar | Seminar classes | Practical classes | Fieldwork classes | Workshops | Others | E-learning |
| Skills | | | | | | | | | | | | |
| M_U001 | Student is able to gain geological information from various data bases and other sources, interpretate and draw conclusions. | + | - | - | - | - | - | + | - | - | - | - |
| M_U002 | Student is able to plan geological works and prepare an exploration program. | - | - | - | - | - | - | + | - | - | - | - |
| M_U003 | Student is able to make a preliminary economic estimation of mining and geology project. | + | - | - | - | - | - | + | - | - | - | - |
| Knowledge | | | | | | | | | | | | |
| M_W001 | Student have a knowledge on principles and methodology of conducting geology works. | + | - | - | - | - | - | + | - | - | - | - |
| M_W002 | Student have a knowledge on prospecting geology. | + | - | - | - | - | - | + | - | - | - | - |

Module content

Lectures

Strategy and policy applied to prospecting of mineral deposits. Influence of world market on mineral prospecting. Strategy of companies in mineral prospecting. Development and design of prospecting projects. Geological methods applied to mineral prospecting. Mineralogical methods applied in mineral prospecting. Geophysics methods applied in mineral prospecting. Introduction to remote sensing methods. Geochemical methods applied to mineral prospecting, pathfinders. Sampling and analytical methods. Background calculation and interpretation. Soil profiles, weathering.

Practical classes

How to collect geological data. Practice in sample description. How to collect stream sediments, pan concentrates and soil sampling. Practice in sample preparation. Know-how to applied for concession. Know-how to prepare project of field and laboratory works. Selection of materials for the project. How to collect and select material for the project. Timing of field geological works, and cost calculation.

Method of calculating the final grade

The final grade: = 0,6 • exam + 0,4 • project

Prerequisites and additional requirements

Prerequisites and additional requirements not specified

Recommended literature and teaching resources

1. G.J.S. Govett, 1983: Handbook of Exploration Geochemistry – Vol. 3 Rock geochemistry Mineral Exploration, 461pp
2. Moon C.J., Whateley M.K.G., Evans A. M., (2006) – Introduction to Mineral Exploration
3. Kearey P., Brooks M., Hill I., (2002) – An Introduction to Geophysical Exploration

Scientific publications of module course instructors related to the topic of the module

Additional scientific publications not specified

Additional information

None

Student workload (ECTS credits balance)

| Student activity form | Student workload |
|--|------------------|
| Participation in practical classes | 28 h |
| Participation in lectures | 28 h |
| Preparation for classes | 14 h |
| Realization of independently performed tasks | 14 h |
| Completion of a project | 28 h |
| Summary student workload | 112 h |
| Module ECTS credits | 4 ECTS |