



SENIOR DESIGN PROJECT IN MINERAL PROCESSING

Assoc. Prof. S CHELGANI

Number of credits: 7.5ECTS

Course code: M7005K

Source: <http://www.emerald.ulg.ac.be/?q=senior-design-project-mineral-processing>

► *Objectives and Intended learning outcomes:*

After the course the student shall be able to:

- Identify necessary project outcomes and project stages.
- Establish the required input data for the project and a time plan,
- Construct and confine working methods and tools to be used, and the grand flowsheet of the project,
- Report results in different ways and occasions,
- Judge if the results are relevant,
- Interpret the result in process technology terms,
- Formulate hypothesis on changes to the process as a result of the project.

► *Contribution to EIT's Overarching Learning Outcomes*

Above listed ILOs cover the **EIT Overarching Learning Outcomes: 2, 3, 5, 6 and 7.**

Testing of state-of-the-art techniques for ore characterization as part of ongoing research projects at the university contributes to the development of entrepreneurship skills and competencies. In a group project, aspects of ore characterization and mineral processing are combined for training creativity skills and competencies. The project usually belongs to a larger project in collaboration with ongoing university research or with a company, which adds to intellectual transforming skills and competencies. In addition, leadership skills and competencies are trained through teamwork and work in contact with companies. The use of latest techniques for ore characterization (hyperspectral imaging, SEM, XRT etc.) addresses research skills and competencies.

► *Contents:*

The project theme shall be chosen in cooperation with the examiner and be related to modern research and development.

► *Realization:*

The student shall individually, or in group, design, carry out and report a project within the subject.



► *Assessment method:*

In the assessment of the student, three different methods are used: content based, competence based, and impact based. They corresponds to grades 3, 4 and 5 respectively as described under Exam.

► *Exam:*

Written report and oral presentation, together graded 3, 4 or 5.

- For grade 3, the student must be able to describe different parts of the project, and to plan and conduct a routine laboratory work. The student must be able to collect and organize relevant data.
- For grade 4 the student must be able to evaluate data provided by different analytical and research techniques and to report the results. The student must be able to design a test plan.
- For grade 5, the student must be able to apply the acquired skills to the project case, interpret, report and present the results and to defend the conclusions.

► *Items/credits*

Number	Type	Credits	Grade
0001	Passed oral and written presentation	7.5	U 3 4 5