Department: Mining Engineering **Division:** Mining Exploration and Mineral Processing

Level and Major: BSc, Mining Exploration and Mineral Processing

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Course Title: Well Logging **Number of Credits:** 2

Prerequisite (Corequisite): Drilling Engineering+ (Geophysical Exploration 2)

Lecturer: Dr. Hamidreza Ramazi

Course Goals and Objectives

Learning and understanding of well logging and its applications in oil, water and mineral exploration.

Course Topics

- References and Syllabus
- Well logging Instruments, parameters and well surrounding zones
- SP method, fundamentals, Instruments and applications
- Resistivity method, fundamentals, Instruments Normal and lateral methods and applications
- Resistivity methods, Induction and laterolog methods and applications
- Radioactive methods fundamentals, Instruments Gama Ray methods and applications
- Radioactive Gama-Gama, Gama-N, N-N and N- =Gama methods and applications
- Sonic methods fundamentals, Instruments, Arrays and applications
- Magnetic and EM methods fundamentals, Instruments, logs and applications
- Well geometry and well conditions logs: Caliper log, Thermometry and applications
- Laboratory works

Reading Resources

- Introduction to Applied Geophysics" Mares S. at al 1986, Charles Univ. Prague
- Ramazi Hamidreza, 2016, "Engineering Well Logging", Amirkabir University of Technology