



## UWA Plus Micro-credentials

### *Critical Information Summary*

Title and brief description	GEOSM502 Geophysical Exploration: Basic Principles and Magnetics. This microcredential covers the important characteristics common to all geophysical methods used in mineral exploration: ambiguity, interference, noise, resolution and sampling considerations, image processing and the common methods of data enhancement. The unit focuses on the magnetic method as this is the kind of data most commonly used in mineral exploration. Beginning with the basic principles behind the geophysical methods, the unit progresses to how to most effectively enhance the data for interpretation. Using an integrated magnetic interpretation exercise, participants learn how to extract the maximum amount of geological and exploration-relevant information from this kind of data. This exercise is based on real data acquired for mineral exploration purposes. As mineral exploration increasingly seeks deep targets under thick cover, geophysics is expected to play a greater role in exploration. The micro-credential provides the opportunity for participants to learn to work with geophysical data in a learning scenario that mimics how they are used in the work place.
Certified learning	(1) demonstrate knowledge of the principles underpinning the magnetic geophysical method commonly used in mineral exploration, and the strengths and limitations of these methods; (2) demonstrate practical skills in geophysical data acquisition design, processing and interpretation, and proficiency in geophysical interpretation and data integration; and (3) communicate scientific results effectively.
How learner participated	Onsite only
Effort required (indicative)	75 hours composed of 40 hours practical workshops (1 week intensive) and 35 hours of practical exercises/assessment in the subsequent three weeks.
Main assessment task	Testing recall of facts, Portfolio and reflective evidence for validation of proficiency, Application of multiple skills to complex problems
Indicative equivalent level	Postgraduate
Industry recognition	The Unit Coordinator is well known for his expertise in geophysical exploration applied to mineral deposits. He has taught short courses nationally and internationally and authored a textbook that is widely used. The application of geophysical methods to detect mineral deposits buried beneath the surface cover of vegetation, soil and weathered rocks is at the forefront of modern mineral exploration in Western Australia.
Quality assurance	The quality of UWA Plus micro-credentials is assured through The University of Western Australia's standards and academic integrity processes.
Successful learner earns PD Points for conversion to:	3
. Admission to an award course	No
. Credit towards an award course	Yes
. If yes, how much credit?	Credit is less than one unit