

Faculty of Engineering

School of Minerals and Energy Resources Engineering

Undergraduate Course Outline

MINE4310

Mine Geotechnical Engineering

Convenor:

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1. INFORMATION ABOUT THE COURSE

Course Code:	MINE4310	Term:	T1, 2020	Level:	UG	Units/Credits	6 UOC
Course Name:	Mine Geotechnical Engineering						

2. AIMS, LEARNING OUTCOMES AND GRADUATE ATTRIBUTES

2.1. Course Aims

This course provides students with a practical understanding of the application of geotechnical engineering

- x Subsidence Engineers' Handbook. National Coal Board (1975).
- x Rock Support and Reinforcement Practice in Mining. E Villaescusa, C Windsor & A Thompson (eds.), Balkema (1999).
- x Cablebolting in Underground Mines. D Hutchinson & M Diederichs, BiTech Publishers (1996).
- x Deep and high stress mining, 1st Int'l Seminar, AGM, 2002 (This is a series)
- x Mass Mining Conf. Series Proceedings. AusIMM, Brisbane. (This is a series recent one in 2015 in Sydney)
- x ISRM 2003 Proceedings Technology roadmap for rock mechanics South Africa (SAIMM)
- x Ground control in mining Technology and practice, Proc. Of 1st Aust. Ground control in Mining Conf., UNSW, ed. Hebblewhite, 2003. (This is a series recent one in 2014)
- x

4. COURSE CONTENT AND LEARNING ACTIVITIES

4.1. Course content

1. Introduction to Mine Geotechnical Engineering
2. Rock mass classification system, reinforcement and support of hard rock & soft rock
3. Mining methods selection criteria and geotechnical risks
4. Application of numerical methods to mine design
5. Caving mechanics & excavation stability
6. Longwall Geomechanics
7. Hard rock / coal pillar mechanics and design
8. Mine backfill and subsidence
9. Dynamic events in hard rock and coal mining
10. Instrumentation and monitoring (surface and underground)
11. Slope stability

4.2. Learning Activities Summary

UNSW

- x Significantly affect your performance in ~~assess~~able work, be it a formal end-of-semester examination, a class test, a laboratory test, a seminar presentation or any other form of ~~asth~~5 0.621-1.3 (s)9.6 (e)-3 (s)]TJ 18.435

We also encourage all students to share any feedback they have any time during the course. If you have a concern, please contact us immediately.

