

《矿床开采新技术》国际化课程开课 安排及简介

一、课程名称

New Technology of Mining Engineering

矿床开采新技术

课程共 32 学时，其中 20 学时由澳大利亚阿德雷德大学许潮水教授主讲。

二、上课时间和地点

序号	周次	日期	时间	上课教室
1	第七周周六	10月28日	上午 08:20 – 11:50 下午 14:10 – 17:40	资源与环境工程 学院 教五楼 5418
2	第八周周日	10月29日	上午 08:20 – 11:50 下午 14:10 – 17:40	
3	第八周周一	10月30日	下午 16:00 – 17:40	
4	第八周周三	11月1日	下午 19:00 – 20:40	

Course Schedule

- 1 Saturday Oct.28 08:20 – 11:50 am ; 14:10 – 17:40 pm
- 2 Sunday Oct.29 08:20 – 11:50 am ; 14:10 – 17:40 pm
- 3 Monday Oct.30 16:00 – 17:40 pm
- 4 Wednesday Nov.1 19:00 – 20:40 pm

三、内容介绍

《矿床开采新技术》是研究生教学中的一门重要基础专业课程，作为采矿的开采对象——矿产资源合理正确的统计和评估是后续开采方案及方法正确的前提。该门课程将主要针对固体矿物合理开发利用，介绍矿产资源地质统计及评估方法、先进开采技术及方法发展现状、特殊开采方法及特殊矿床开采技术等。通过该课程学习，让学生了解最新的基于地质统计学的矿床模型构建，基于矿产资源评估的开采评价以及风险性分析，结合固体矿物开采技术发展现状，能够使固体矿物开发利用的方案设计、技术方法、经济效果等更合理。

该课程不但介绍矿床建模以及开采评估，还会介绍一些特殊开采工艺和方法，使学生了解固体矿物非传统采矿技术、采矿技术发展规律等；系统的掌握矿床开采工艺技术原理、矿床模型建模技术、数字矿山技术、采矿工艺设备优化配置等。通过采矿新技术的学习和运用，具备安全、高效采矿技术和工艺开发能力。先修课程：高等采矿学、采矿系统工程、工程数学类。

Course introduction

" *New Technology of Mining Engineering* " is an important basis specialized courses for graduate students, the statistics and evaluation of mineral resources reasonably and correctly is the precondition for the mining method choice and design. according to the rational exploitation and utilization solid mineral resources, this course will introduces geological statistics and evaluation method, advanced mining technology and method development, mining method and special mining technology. Through the study of this course, the graduate students can understand the method of establishing orebody model based on geological statistics, the analysis of mineral resources exploitation and risk assessment, and based on the development status of solid mineral mining technology, they can make the mining method choice and design, mining economic effect more reasonable.

The course not only introduces the orebody model establishing and evaluation of mining, also introduce some special mining technology and methods, so the students can understand the non traditional mining technology and mining technology development history and characteristics of solid minerals; comprehending the principle of mining technology, modeling technology of mineral deposit model, the technology of digital mine, the optimization of mining technology parameters and

mining equipment configuration. Through the study and application of new mining technology, the students should have the ability of safety and high efficiency mining technology. Pre-course: advanced mining engineering, the system engineering of mining, engineering mathematics.

许潮水教授简介

Adelide 大学采矿工程的研究室主任，有 20 多年在采矿学术界和工业界的工作经历。研究涉足许多领域，包括地质统计学，矿物资源评价，矿山项目风险评估，矿山设计优化，岩石断裂力学，岩石断裂随机模型，基于离散元方法的颗粒流模拟，孔隙裂隙介质的统计理论。和 P. A. Dowd 教授研发的用于采矿项目财务评价及风险评估的商业软件 MINVEST 曾获得 1995 年英国商业软件挑战赛的头奖。MINVEST 现在的用户遍及世界各地。与 R. J. Fowell 博士研发了用于岩石断裂强度试验的岩石预裂巴西圆柱样品制作技术 (CCNBD)。该研究成果获得国际岩石力学学会试验委员会的认可，被选为国际岩石力学学会用于测定岩石 I 型断裂强度因子的推荐方法。免费软件包 FracSim3D 的作者，该软件已广泛地应用于国际离散裂隙网模拟研究界。

A/Prof. Chaoshui Xu

A/Prof. Xu has over twenty years of experience working for mining academic institutions and the industry. His research interests cover many areas including geostatistics, mineral resource evaluation, risk assessment of mining project, optimal mine design, rock fracture mechanics, stochastic rock fracture modelling, fluid flow and heat transfer in porous or fractured rock. A/Prof. Xu's major achievements include the development of a commercial software product, MINVEST, for financial evaluation and risk assessment of mining projects, which won the top prize of 1995 UK Business Software Challenge Competition; and the development the CCNBD (Cracked Chevron-Notched Brazilian Disc) specimen for rock fracture toughness testing, which is now an ISRM (International Society for Rock Mechanics) suggested method for the measurement of Mode I rock fracture toughness.

A/Prof. Xu is also the author of the software package FracSim3D, a freeware widely used by the international discrete fracture network modelling research community.