科目ナンバリング	U-LAS15 20011 LE58						
授業科目名<英訳>	Introduction to Mineral Resources-E2 Introduction to mineral resources-E2			担当者所属職名・氏名	エネルギー科学研究科 准教授 AU Ka Man		
群	自然科学科目群			分野(分類)	地球科学(発展)	使用言語	英語
旧群	B群	単位数	2単位	週コマ数	1コマ	授業形態	講義（対面授業科目）
開講年度・開講期	2026・後期	曜時限	水4	配当学年	主として1・2回生	対象学生	全学向

[授業の概要・目的]

Minerals are important for society to function, but it is useful to know how they are formed, extracted and converted into useful products. This course will introduce students to earth sciences, with a focus on mineral resources, as well as looking at how these resources are converted into useful materials and what wastes are produced in the process. We will focus on how minerals can be considered "critical" to society now and in the future.

[到達目標]

From this course the students will be expected to know how mineral resources are situated geologically, how they are measured, how mining and minerals processing leads to final products that are used in society and what the implications of the extraction of minerals are for the environment.

[授業計画と内容]

This course will cover the following topics:

Basics of geology and earth sciences with a focus on mineral resources
1. Introduction
2. Geologic time
3. Fossils
4. Rocks

Minerals resources and their extraction, transformation into mineral products
5. Matter and minerals
6. Mining
7. Minerals processing
8. Resources and criticality
9. Rare earth elements
10. Deep ocean resources

Each of the above topics covers 1-2 weeks, with one class per week.
The course overall consists of 14 classes and one feedback session.

[履修要件]

特になし

Introduction to Mineral Resources-E2(2)へ続く↓↓↓

Introduction to Mineral Resources-E2(2)

[成績評価の方法・観点]

Class participation and small exercises (35%)
Final presentation (15%)
Final report (50%)

[教科書]

使用しない

[参考書等]

（参考書）
授業中に紹介する

[授業外学修（予習・復習）等]

The final assessment tasks will require students to spend time out of class hours in preparation.

[その他（オフィスアワー等）]

Consultation is available by prior arrangement.

[主要授業科目（学部・学科名）]

理学部