科目ナンバリング	U-LAS15 20007 LE58						
授業科目名 <英訳>	Introduction to Engineering Geology Introduction to Engineering Geology			担当者所属 職名・氏名	工学研究科　准教授　ZHU Fan		
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	火5	配当学年	主として2回生	対象学生	理系向

[授業の概要・目的]

Geology comes from the Greek geo, "Earth", and logos, "discourse". This class provides a basic knowledge of our planet's components (matter, minerals, rocks, etc.) and their main processes (mineral formation, plate tectonics, volcanic activity, earthquakes, etc.) from the viewpoint of engineering.

The correct understanding of the Earth and its many interacting parts, in different physical and time scales, using the basic knowledge and principles of geology, will help us confirm that all important geological factors are adequately considered when designing, constructing, and operating engineering works.

[到達目標]

By the end of the semester, you should have a basic knowledge of geology, and be able to think about its application when designing, constructing, and operating engineering works.

[授業計画と内容]

This course consists of 15 classes including one feedback class. The main topics are:
1. Guidance, introduction to Earth science
2. Plate tectonics
3. Matter and minerals
4. Igneous rocks, volcanic activity
5. Weathering, sedimentary rocks
6. Metamorphism, metamorphic rocks
7. Principles of relative dating and numerical dating
8. Mountain building process
9. Earthquakes and crustal deformation
10-12. Geologic structures and mapping
13. Surface water and groundwater
14. Energy and mineral resources
15. Feedback

[履修要件]

特になし

[成績評価の方法・観点]

Grading will be based on performance during regular classes (such as in-class exercise and homework) (30%) and a final exam (70%). Details will be explained in class.

Introduction to Engineering Geology(2)へ続く↓↓↓

Introduction to Engineering Geology(2)

[教科書]

使用しない

[参考書等]

（参考書）

Edward J. Tarbuck, Frederick K. Lutgens 『Earth - An Introduction to Physical Geology』ISBN: 9780321814067
Stephen Marshak 『Essentials of Geology』ISBN:9780393919394
Edward A. Keller 『Introduction to Environmental Geology』ISBN:9780132251501
Lee R. Kump, James F. Kasting, Robert G. Crane 『The Earth System』ISBN:9780321597793
Brian J. Skinner, Barbara Murck 『The Blue Planet : An Introduction to Earth System Science』ISBN: 9780471236436
Kent C. Condie 『Earth as an Evolving Planetary System』ISBN:9780123852274
All reference books are available at the Library of the School of Global Engineering, at the Main Yoshida Campus Library, and/or at other Kyoto University libraries. Previous editions of the same books can also be used.

[授業外学修（予習・復習）等]

Assignment may be given after a class and students are expected to complete the assignment before the next class.

[その他（オフィスアワー等）]

Consultation arrangement will be provided during the first lecture.

[主要授業科目（学部・学科名）]

理学部