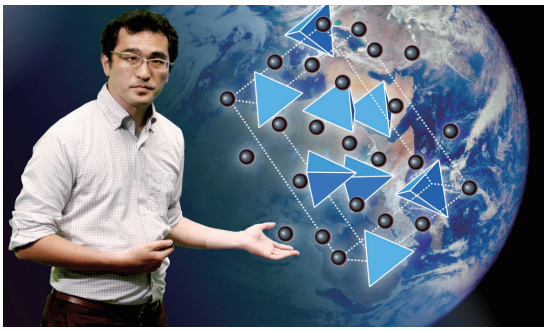
KyotoUx 012x

Free online courses from Kyoto University

"Introduction to Geochemistry"

The goal of the course is to apply chemical principles to understand the natural (non-living) world around us and appreciate its complexity.



Start: **January 30, 2020**

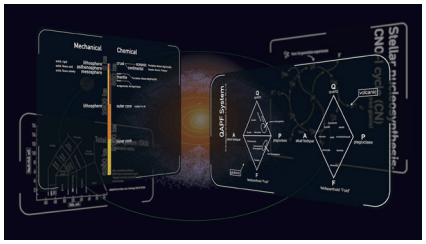
Length: **7 weeks**

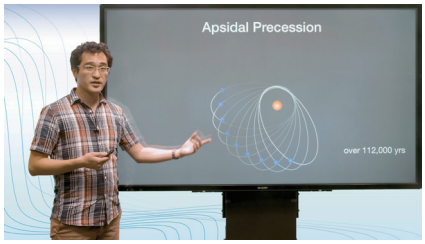
Instructor: **Yoji Kobayashi, Ph.D.**

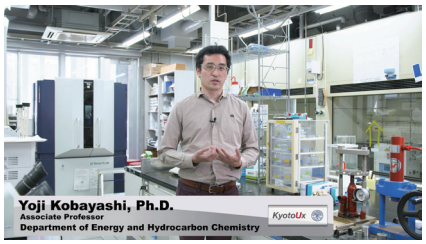
Associate Professor of the Department of Energy and Hydrocarbon Chemistry, Kyoto University.

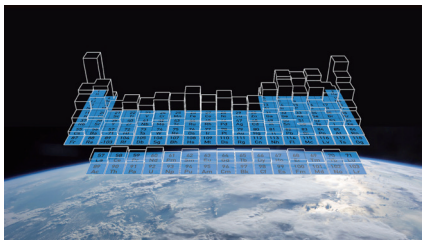
Chemistry, often referred to as the central science, concerns matter and the transformations it can undergo. While many aspects of chemistry can be applied to solving various problems relevant to our society, chemistry also offers a convenient framework to understand the complexity of the natural world surrounding us. The goal of this course is to apply chemical principles to understand the natural (non-living) world around us and appreciate its complexity.

The chemical principles usually covered in general chemistry, undergraduate inorganic chemistry, and physical chemistry enable us to examine many aspects of the Earth. We will look at the formation of the elements, and describe the reason for the different abundances, and what this means for the Earth' s composition. We will also look at how isotopes can be used as chemical tracers and "clocks" , leading us to insight on the various processes of the Earth, and even our own bodies. Finally, we will see how geochemistry can help us understand, or even combat the many environmental and technological problems that we face.









Week 1 The formation and distribution of elements in space

Week 2 Mineralogy: Just a "rock" ?

Week 3 Distribution of elements on Earth: Igneous processes

Week 4 Where the fun begins: Radiogenic isotope chemistry

Week 5 Stable isotope chemistry I (Basics)

Week 6 Stable isotopes II (Paleoclimatology)

Week 7 Geochemistry and our Future

https://www.edx.org/course/introduction-to-geochemistry

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