

## Advanced Analytical and Environmental Chemistry

2 units (selection)

Mikito Yasuzawa · ASSOCIATE PROFESSOR / PHYSICOCHEMISTRY AND MATERIAL SCIENCE, CHEMICAL SCIENCE AND TECHNOLOGY, EARTH AND LIFE ENVIRONMENTAL ENGINEERING

Tomoki Yabutani · ASSOCIATE PROFESSOR / CHEMICAL PROCESS ENGINEERING, CHEMICAL SCIENCE AND TECHNOLOGY, EARTH AND LIFE ENVIRONMENTAL ENGINEERING

**Target** This class introduces current status and topics in the academic field of analytical chemistry and global environmental problems in the world.

**Outline** The outline of this class is an introduction of history and advances of analytical chemistry and environmental problems. The contents for analytical chemistry include sample preparation, separation method and principles of some important analytical instruments for characterizing environmental problems.

**Style** Lecture

**Keyword** *analytical chemistry, environmental analytical chemistry*

**Fundamental Lecture** “Global Environmental Chemistry”(1.0)

**Requirement** Students are required to have enough knowledges and trainings of analytical chemistry and environmental chemistry in undergraduate-level and related subjects.

**Notice** 授業を受ける際には、2時間の授業時間毎に2時間の予習と2時間の復習をした上で授業を受けることが、授業の理解と単位取得のために必要である。

**Goal**

1. To understand the current advance in analytical chemistry.
2. To understand of the earth environmental problems in the viewpoint of analytical chemistry.

**Schedule**

1. Introduction
2. Influence of chemical compounds to human health
3. Introduction of analytical methods of chemical compounds in biological samples
4. Current topics of analysis of chemical compounds in biological samples
5. Current status of pollution in global environment by toxic chemical compounds
6. Introduction of urban atmospheric environment
7. Current status and topics in urban atmospheric environment
8. Global climate change by greenhouse gas
9. Introduction of aquatic environment
10. Current status and topics of aquatic environment
11. Introduction of soil and lithospheric environment

12. Current status of soil and lithospheric environment

13. Introduction of analytical method for environmental analysis

14. Current advances of analytical method for environmental analysis

15. Current topics of environmental chemistry

**Evaluation Criteria** The No. 1 and No. 2 objectives of this class mentioned above are related with the lecture No. 2-4, 13, 14 and No. 1-15, respectively. The final grades will be determined numerically by averaging your scores with the following weights; homework reports 70% and quizzes 30%. The score will be described as 100-points scale. You will be passed for this class if you get over 60 point.

**Textbook** To be introduced in the class

**Reference** To be introduced in the class

**Contents** <http://cms.db.tokushima-u.ac.jp/cgi-bin/toURL?EID=216882>

**Contact**

⇒ Yasuzawa (G512, +81-88-656-7421, mik@chem.tokushima-u.ac.jp) MAIL  
(Office Hour: 月曜日 16:30~ 17:30)

⇒ Yabutani (G605, +81-88-656-7413, yabutani@chem.tokushima-u.ac.jp)  
MAIL